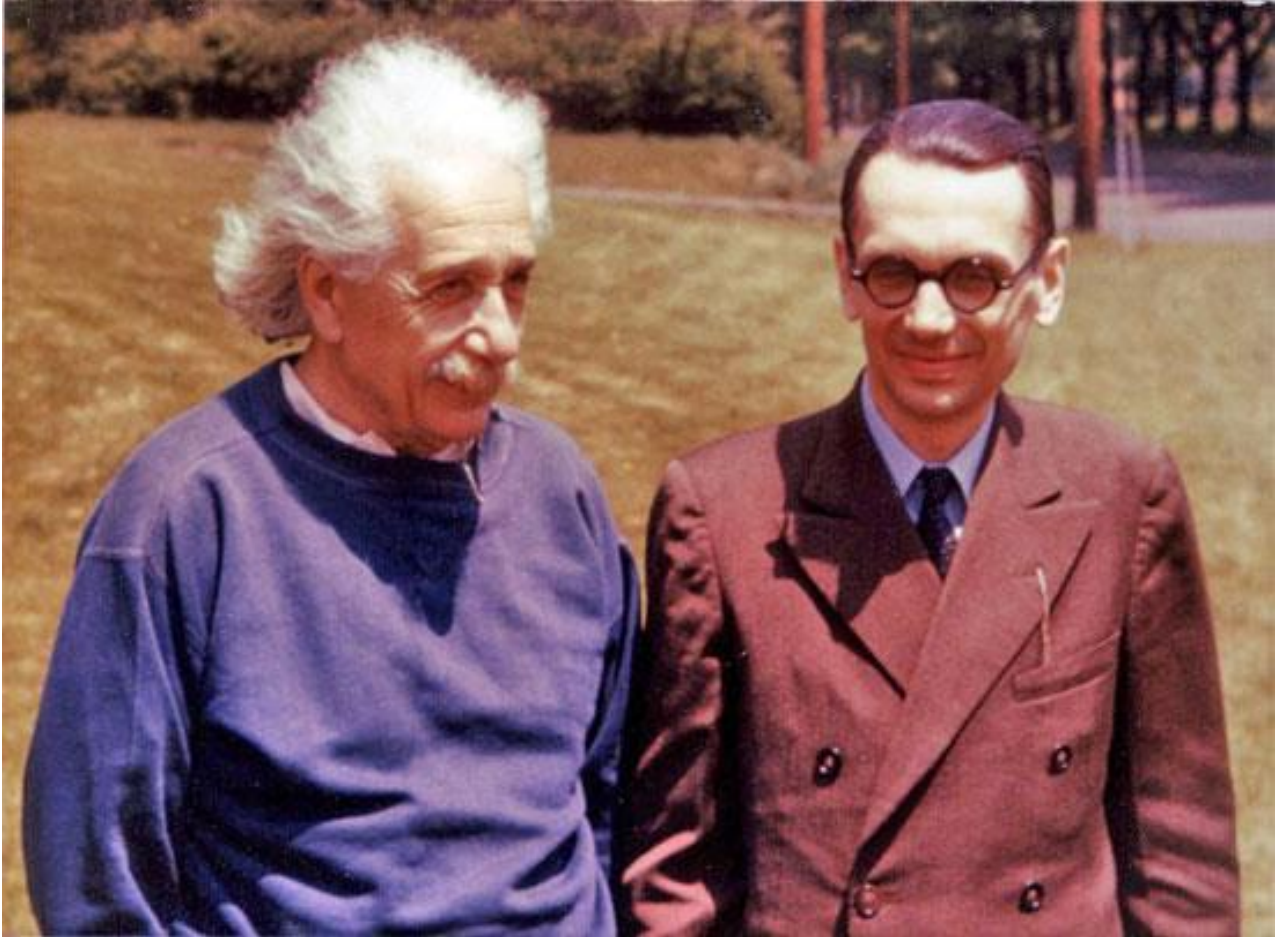


Adventures in Gödel-time

The Epiphanies

a novel by Bob Martel



Welcome to the Institute

From the moment Dean James Peebles introduced himself and the four post-doctoral students to one another, the students knew something weird was up.

“I am Dean James Peebles. Welcome to the Institute for Advanced Studies.”

He gestured to one of the students.

“You are $2 \times 3^3 \times 37^4 \times 11^5 \times 61^6 \times 197^7 \times 127^8 \times 7^9 \times 13^{11} \times 47^{12} \times 179^{13} \times 163^{14}$.” He said. “We’ll call you M sub 2.”

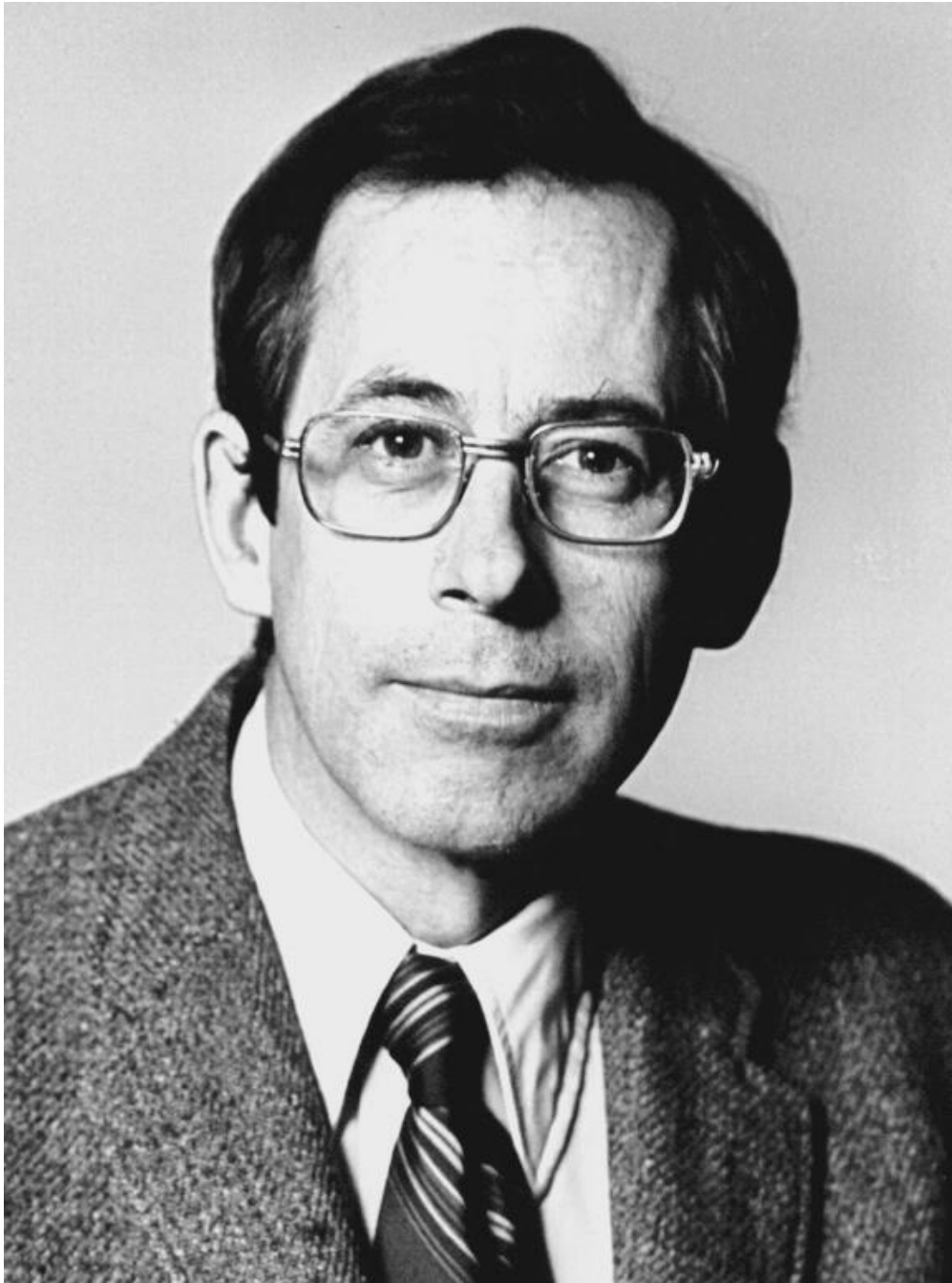
Peebles was famous for his cosmological work. His sincerity was as obvious as was his sense of humor. He smiled as he read off the numbers, pointing at each one of the students as he did, he then called each by the letter and number for which they would become famous. And so on until each of the four had a name. He did this without explanation.

Peebles named them with a product of primes to increasingly larger integer powers. These numbers he then abbreviated to a single letter with a one-digit integer as a subscript. There were two M’s and two F’s.

The one Peebles called M sub 1 made note that being named by what must be a Gödel number was, he supposed, a rare honor especially given that Dr. Kurt Gödel had recently re-joined his greatest friend since the 1930’s. Gödel was the reclusive younger friend of Albert Einstein. Albert had passed almost 25 years ago. Two years and a week ago Kurt had passed.

M sub 1 shrugged at Peebles’ odd naming of them. At Princeton, especially at the Institute for Advanced Studies peculiar things happen.

Still this was odd, even for IAS. M sub 1 had a numerical echoic memory. He remembered every number he ever heard. The four long numbers Peebles called them were locked in his memory for later analysis.



M sub 1 glanced at the other three who reacted with signs of less familiarity and with even misunderstanding. He was the only one of

them, he concluded, who had studied Gödel's work in all his interests: Physics, Mathematics, Philosophy and Logic. M sub 1's studies focused almost entirely on cosmology which included all four areas of thought. In early 1977, when he presented his dissertation topic on the possibility of a rotating universe, his advisor phoned the still living Doctor Gödel so that M sub 1 and the advisor could discuss M sub 1's conclusions with Gödel. Gödel had quizzed M sub 1's advisor about the same subject only recently. Since a rotating universe was Gödel's central issue of the moment, linked as it was to his last known theory called Gödel-time or the Gödel-universe, the call lasted a while. M sub 1 earned his degree on the strength of his thesis and with the other post-docs he was awaiting the awarding of his degree.

His advisor was none other than the Dean Peebles who stood in front of M sub 1, a white board behind him with the four younger almost Doctors sitting at the long table before him. Around them were the usual floor to ceiling dark wooden bookshelves over filled with the tomes the dean had collected.

The dean was grinning as he wrote on the board, a grin that said he had successfully joked them. He persisted.

"Just kidding." He said as he wrote M sub 1, F sub 1, F sub 2 and M sub 2 in a column on his large white board in a crisp handwriting that revealed he respected them all. "Why? Well, as I describe what your role at the institute is to be, the project that is, this new way of naming you will anchor you to the desired outcome."

He stopped talking but continued to write:

M sub 1 – Cosmology, Rodolpho Vega

F sub 1 – Quantum Physics, Marva Bundenfelt

F sub 2 – Philosophy, Alicia Windtree

M sub 2 – Formalist Mathematics, Sebastian Neuhaus

Once he finished writing, he took approximately a minute to study what he'd done. He put another number – '167' – on the board above their names. "You will spend a year together in this office searching for meaning and writing papers on your discoveries– at least that is what we hope. This was and is the number of Heir Professor Kurt Gödel's office." As he was saying 'office' he tapped the board above the number he had just written. "In there are treasures. You will be the first to examine them for the meaning we at the Institute wish we had time to seek for ourselves. You have a year from today."

The dean sat at the table with the four. "During the time you spend in Gödel's office you will receive your doctorate degrees. You have already earned them, but the ceremony is several months from now. Most people in your position take vacations, this is more of an adventure and your first post-doc appointment for your resumes.

"Any questions?"

M sub 1 was in a state of shock. Study Gödel!

The others may not have understood the proposition. There was nothing more for them to prove to anyone, their degrees almost in hand, they all chose silence.

"I would be quiet, too, if I were in your shoes. I have more information. The institute is asking you to learn as much as you can from Gödel's papers. He wasn't fond of humans. A bit paranoid to say the least. He spoke to almost no one since Einstein's death. He wrote papers and engaged in public discussions, but he was a loner. He didn't publish everything he wrote. We can only imagine what is in 167." The dean stood as he talked and moved back to the board.

“You were chosen by the Institute’s board because of your specialties and interests in cosmology, philosophy, quantum mechanics and



formalist mathematics. These coincide or conflict with Gödel’s interests. The IAS is hoping you will gain insights from your studies of his papers both published and unpublished. We look forward to reading what you produce in turn.”

There were no hands or comments, so the dean went on.

“We have no expectations but there are those of us who wish we could be in your place. I guarantee you, we will be interested in your results regarding Gödel-time.” The dean resumed grinning. M sub 1 wished he knew what was behind the dean’s inscrutable face. Secrets lurked there, he was sure.

“Any questions?” A hand shot up. The dean pointed to him. “M sub 1.”

“When do we start?”

“Now.” With that, he gave each of them a key to Gödel’s office. “I suggest you all go have a cup of coffee or maybe a beer, talk it over. We can meet again tomorrow if you wish. Call Billy my secretary. Classes for the next semester won’t start for another four days. I am probably available if you need me. I will warn you I am off to Spain for the first two weeks in August.”

“Oh, one more thing an Archivist has been assigned to help you. They have special rules about how to handle collections of paper. Treat her with respect. She may be the one to keep your history when it is your turn.”

It was Thursday January 24, 1980 at 4 pm.

Coffee is a stimulant/Beer gets you near

F sub 2 had no reaction to the mathematicalization of her name. Her concerns were about the philosophical realities. She thought the bigger mystery was the Institute's board trying to blend the obviously contentious specialties. Peebles never said they expected these four characters to get along. Perhaps, there was an intention in this. She was thinking about M sub 2 and M sub 1 – formalist mathematics v cosmology – who in her eyes were so different. Maybe they were chosen to cause friction. She awakened from her thoughts as the Dean was dismissing them. They all rose. No one spoke as they left his office. Their beginning as a team was difficult.

First, they met in the hallway outside the Dean's office and argued about what-the-hell-was-that-all-about. Then they argued about a bar versus a café. Then they argued about why meet at all. Then F sub 1 and F sub 2 decided to take offense at being called F's as opposed to M's. By that time, they were outside in the New Jersey, January weather. The nearest shelter from the snow was a café/bar, almost a mile away. M sub 1 said he had a car. Not to be outdone F sub 2 said she'd buy. There was agreement and that was how the afternoon started.

The Standing Wave had been there forever, at least as far as anyone of them remembered. The stone and wood building looked like it had been there for a long time. Before they crawled out of M sub 1's car, none of them had been in it. Music posters were pasted everywhere a poster could be posted on the exterior and assorted utility poles nearby. The newest one hailed a group called the Ramones. They were

scheduled to play two months ago according to the hand drawn sheet that carried their photo.



F sub 2 pulled the heavy doors apart and the others followed her into the very primitive restaurant. It was more than primitive. It looked as if a riot was in progress. It was nearing five o'clock. It was Thursday, a universal day for beer consumption and it looked like it.

"This is crazy. Are you sure this is the place? Do you think it's safe?" F sub 1 asked no one in particular while raising her voice so she could hear herself over the noise of fifty mostly male, mainly slightly lubricated Princeton students.

The music was Talking Heads new song

Look where my hand was
Time isn't holding up

Time isn't after us
Same as it ever was

F sub 2 lead them to a large wooden table hewn from a single slab of what looked like oak. It was heavy, thick and must have been the scene of much drinking. The surface had been dinged hundreds of times but none of them deep. A table for four, she thought.

M sub 2 ran his hands over it. "Lots of juvenile fun had here. Probably more than a few arguments." The table was far from the bar itself and therefore of little interest to the partiers.

That first afternoon, their inter-disciplinary arguments continued, new ones were begun, no one came to their senses. All four knew Gödel from their studies and though their assessments varied from admiration to dislike they respected the otherwise esteemed Dr. Gödel. M sub 1 could not convince them of his value while yelling against the din. Einstein, they all got. Gödel was never going to earn their respect. M sub 2 said Heir Professor was trying to destroy truth. The F's nodded. M sub 1 was at a loss. Two beers later they could have cared less.

Rodolpho Vega, aka Rudy, aka M sub 1, knew how they felt. It matters that truth is in doubt. People take that personally sometimes. People do not take kindly to being told they can never know the truth. Gödel had been sowing this confusion for the better part of the twentieth century. He had somehow made mathematics personal. Now, even two years since his death in 1978, his writings were still at it. Death could not stop him or his 50-year-old ideas.

As the four parted for what remained of their day, they agreed to meet in the morning for coffee, right where they were, at eight o'clock in the

bar and café nearest to office number 167. Their plan was to then try out the office keys together to see what was what in Gödel's office.

In the morning, back at the Standing Wave, they began to see things differently. They ordered coffee drinks as they entered the bar and sat at the big table again. Round, the heft of which made the table a center of conversations, it was large enough for even their arguments about the nature of life, broken down in all its parts, as university students are taught to think. Everything fit on the table. They all knew Plato, Descartes and Huresl, of all people. They all knew Archimedes, Aristotle and Voltaire. After espressos etc., it was agreed they were all super-human intellectuals who could figure out who G was, forget the ödel part. G became the target of their desires. If it was possible, they would know him.

Alicia Windtree, the esteemed, if ill-named, F sub 2, Philosophy [almost] PhD, was ready. She claimed over coffee she had stayed up reading Jim Peebles' work. She came to trust her place in the IAS project, when Peebles opined that G was the greatest philosopher since Aristotle. Rudy laughed at the thought of a philosopher reading Peebles' - a cosmologist - works, then he remembered he had read Plato and Aristotle.

In a moment of silence one of them stood and ordered an "evacuation of this den of inequity in favor of adventures chasing the wild G, wherever and whatever and whenever." In peals of laughter, they fled into a snow storm to make the dash to Rudy's car, the IAS and on to Room 167.

G's office #167

Everyone had a key. Rudy made it to the door first. He unlocked it, then locked it. Without words, each one followed his gesture until Sebastian's key unlocked the door and with some enthusiasm he swung the door open. It came to an unexpected stop against what would prove to be an eight-foot-tall stack of bankers' boxes.

They squeezed into the twelve by twenty office.

Nothing they could have anticipated matched the site that laid before them when on the first morning they entered G's office. Boxes and bins and cartons of all kinds and sizes greeted their eyes. Stunned, they stood in the available open space as near to each other as they ever had been to anyone in their lives.

Someone said, "Oh, my God."

Someone else had the sense to reply, "Do you have a proof?"

That first impression lasted for a lifetime. G proved to be a hoarder, a serious hoarder of every piece of paper he ever came across, or so it seemed. The piles of this and that surrounded Gödel's desk. Everything was covered including the chairs for guests. Even the doorway to his small bathroom was nearly blocked by cartons.

None of them had a plan for what to do. They stood together in the available floor space. They each spun slowly surveying the landscape. One by one they waded into the piles looking for information about what was there.

M sub 2, Sebastian Neihaus, soon to be Sebass, opened a small box probably a fifty-year-old shoe box. It was certainly old and in a very old style. Sebastian had never seen a box like it. Probably European, he

thought. He opened it revealing hundreds of narrow note paper sheets. He gasped. "What the hell. Here is a box of laundry receipts from the 1930s. They're in German."

"Hey, M sub 2, here are some handwritten notes from a Moritz Schlick lecture, also in German. Right up your alley." F sub 1 had little interest in the formalist mathematics Sebastian was focused upon or in objectivist philosophy both a far cry from the Einsteinian physics she adored. Marva Bundenfelt was educated in the German gymnasiums. Princeton taught her Quantum Physics.

She paged through a small pile of G's handwritten notes and recognized the shorthand that G used. It was called Gabelsberger, a creation of Vienna more than 60 years ago. She had not seen it in years. Her face must have shown some pain from loss. There was a tear or two.

"Marva, are you OK?" Rudy leaned towards her as he spoke, so only she could hear.

She smiled. "Thanks. Homesick, I think. It's the language."

Alicia, then Rudy, reported everything they had seen so far was in German.

Sebastian knew why. Marva said, "Not difficult to figure. Did Peebles get it right? Sprechen wir alle deutsch?"

The answer was a chorus of "Ya ich will."

The Path

There is an open field between the Institute and the Princeton campus proper. It lies between the Institute offices and the faculty housing. At times a few people would venture across the meadow forming a path. When it was taken by G and E for their conversations it became known as The Path. In the depth of winter, The Path was buried beneath the snow. The tall grasses that grew in the meadow in the summer were compressed and decomposing but it, the Path, recalled the two friends who crossed it twice a day as they spoke of the heavy things of their recent history.



At first, in 1942 when their friendship began, the topic may have been WWII and the loss of the life they both had known as sons of Europe and of the intellectual giants who they had known. In 1955, as E lay dying the subject was no doubt Time. In the spring 1980, this dialogue would be rediscovered by those who would trace E and G's steps.

M sub 1 knew about the existence of The Path but had never had a destination from the University that he could take The Path to reach. Now that he was at the Institute, he was permitted to park near the faculty housing. He walked past the meadow on the sidewalks that surrounded it. He would look across the snow and imagine seeing green.

“I’m Serious!”

Students are good at schedules, especially the good students, who easily establish habitual routines. This included their 8 o’clock meet ups for coffee at the Standing Wave. Their evenings ended at the same bar for beer for what became their nightly debriefing.

They were taking notice of one another. In their minds, they were special. Part of each one’s ‘special’ came from working with the other three. They were bonding but were held back by the conflicts between their specialties. There was plenty of room for argument. These topics they did not avoid.

In an early evening debriefing, the talk was G talk. They shared what they had learned from their day in the Piles, as G’s papers became known. Rudy found G fascinating. He told stories from his dreams. Not everyone appreciated his stories.

“It’s bad enough being in the damn piles day after day, hour upon hour...” Sebastian was always emotional. The others had it figured and were not aroused by his style. “Why do I have to listen to this. Dreams? Are you kidding?” Sebastian had heard enough Gödel praise for one evening. “Enough of this. From my point of view the man who claims change is an illusion could not also be claimed to have single handedly ended the Formalist experiment. Serious people still work to prove he was a charlatan. The claim G’s graduate thesis upset the Hilbert’s formalization plan generated by the greatest mathematicians of our time is impossible to accept. Then, as if to prove his work was crazy, he posited cyclical time and a rotating universe.”

Sebastian believed he was powerful because he had braved the uncertain territory of European mathematical circles and was now a

believer in the late Moritz Schlick, the famed Logical Positivist. Likewise, he was conflicted and when pressed to explain his ideological position he went grammar school on his foe. His voice snarled as he spoke demonstrating he had issues.

“Sebastian, you are a student of your art.” Alicia took his sneers philosophically. Her take on the early 20th century mathematical controversy was emotionally empty. The actual combatants were all dead with Gödel’s passing. Schlick himself had been murdered by one of his students.

Alicia saw Sebastian’s affinity to logical positivism as so much a product of bias that a lesser believer would have been embarrassed to hear himself espouse such views.

Sebastian could have taken her statement badly, but Alicia was smiling, and she took time to look at him with a look poor Sebastian did not dismiss, maybe it reminded him of his mother, maybe he was just a little frisky. His eyes must have shown his desires because she reached for his hand. As she petted him, he knew to smile back. Thus, proving that even the socially unskilled get it right sometimes.

Marva and Rudy watched this exchange. Marva was amazed that she saw what she thought she saw. The idea of love was on her biological mind which received very little attention. The notion that some pleasures came from other than intellectual pursuits was a given, but she was a realist which left her avoiding the near occasion of any other pleasure.

“There is no future in it.” She said too loudly. “Love, I mean.” She noticed Rudy was grinning at her. “I’m serious!”

“Looks nice.” Rudy said. “You know, dear Kurt was into sex just like Einstein, until he discovered germs.” Marva laughed. She had heard a lot of Albert jokes. This was her first Kurt joke.

Rudy does some figuring

He left the office with the others, then made an excuse to return to his apartment to unpack his memories. The night had fallen. The darkness surrounded everything. The cold was extreme.

His car was parked across the snow-covered meadow on the Princeton side. Rudy had bolted from the in-office debriefing because he was intent upon finding out more about Peebles' funny Gödel numbers with which he had named them.

Time was weighing heavily on him. His impatience was obvious. He set out across the field of white hopping along until he reached his car. The cold was deep. The wind had been strong. The shelter of the car was little solace. His street shoes had been invaded by snow. He gripped the wheel as he sped towards his warm apartment.

Once again warm, a cup of peppermint tea in his hand, he sat at his desk built into a windowless, darkened corner. On it he placed two clean white sheets of paper, a set of colored pens and his well-worn copy of the Physics and Chemistry handbook opened to the pages with a list of primes. He turned on the lamp.

He wrote M sub 2's number from his memory:

$$2 \times 3^3 \times 37^4 \times 11^5 \times 61^6 \times 197^7 \times 127^8 \times 7^9 \times 13^{11} \times 47^{12} \times 179^{13} \times 163^{14}$$

He had three other such number strings in his head. He wrote:

$$11 \times 97^2 \times 127^3 \times 67^4 \times 47^6 \times 13^7 \times 17^9 \times 179^{10} \times 7^{11} \text{ which was his own.}$$

Marva's and Alicia's were, respectively

$$11 \times 67^2 \times 71^3 \times 19^4 \times 127^5 \times 199^6 \times 23^7 \times 5^8 \times 3^{10} \times 263^{11} \times 2^{12} \times 73^{13} \times 353^{14} \times 97^{15}$$

and

$$71 \times 19^2 \times 11^3 \times 5^5 \times 61^6 \times 127^7 \times 2^8 \times 199^9 \times 23^{10} \times 47^{11} \times 43^{12}.$$

On the second sheet he wrote the first one, M sub 2's number, given to him without comment by Peebles.

The number was alone on the white sheet. He regarded it with a smile trying to think of it as a friend rather than a stranger. Sometimes it is almost a romance, he noted, because some numbers are that way.

If these numbers are Gödel numbers there must exist a definite program for going back and forth between the language and the Gödel numbers. What language? He sipped his tea.

"Hot." He blew across the cup. Tried again.

His habit of mind was to first take note of anything missing from the statement of the problem. The primes went from 2 to 197 with many missing from that range. He noticed the integers used as powers began at 1, by convention unstated, as the power of the base '2' but the exponents were missing 2 and 10. There was no clue as to what this meant. The prime bases were not in any order while the exponents were in increasing value.

His second habit was to question the question.

On the piece of paper, he wrote the Natural Numbers 1 through 14. Under the 2 and the 10 he put a dash. Down the side he wrote the primes from 2 through 197 being sure he missed none of them by checking his against the list in the handbook.

Long minutes passed in silence. He sat at ease, looking at his paper, but slightly animated by his thoughts. "What are you?" He mumbled. "The integer powers may be place markers. Primes could be letters but 197 is the 45th prime. Only 26 letters assuming a European alphabet. Hmm?"

He closed the physics handbook and placed it on the shelf where it belonged.

On his paper under the prime '2' he wrote 'a.' Under the 3 he wrote 'b' and so on until he wrote 's' under the 61.

"Now what?" He wrote 'f' under to the 13 and lastly 'o' under the 47.

"A _ Bles ___ _ Fo__ . Leaning back in his chair he studied what he wrote. "Ah! I see. Says a lot about Sebastian."

When he went back to his spread sheet, he realized that the primes above the 26th prime would be a repetition of a letter like 's' which was 61 and then 197 and 'o' was 47 and then 179.

Soon he had 'Esthetic Beauty' for Marva, 'The Creation' for Alicia and 'Eyes of God' for himself. He finished with 'A Blessed Fool' for Sebastian.

His third habit was to question his conclusion. Math was not everything one needed to satisfy. There was logic and reality. "Does this make sense?"

And of course, a sense of rightness or just the nature art itself allowed for this way of naming. It was this rightness that led him to his conclusion. It was not who they were but how they acted in the story that named them. Peebles was indeed inscrutable. Rudy vowed to keep his mind open, slid the paper into a text on medieval architecture he pulled from the shelf. He put it back on the shelf.

Young Hearts

Their waiter at the Standing Wave was often the morning manager. His attention to them was for his own use. He had studied for Broadway and recognized the drama they brought for what it was, some days a form of surrealism, some days Waiting for Godot, others a bunch of ravers discussing the Tower of Babel.



His mother named him Marvin. He told everyone his name was Johnny. No one cared. His girlfriends called him Johnny. What else was there? He went on his way all morning, staying close enough to hear their discussion, while the four strange nerds went on talking in their way.

He loved punk rock and found the four fascinating. He wrote songs from their arguments. They didn't do music. They never would notice. He knew that. He loved them that way. As far as he remembered he and they had exchanged no words beyond coffee orders and even that was unnecessary.

"Anybody notice the waiter, all punked out, studying us?" Sebastian whispered his mildly paranoid question when he saw the morning manager studying them.

Alicia sensed his tension. "I like him. I heard he writes lyrics based on whatever he makes of our conversations. You probably feel him stealing your prose for his poems. Poor bastard." She laughed. Sebastian glowered because he did that. The other two missed the joke.

Rudy was thinking about the possibility of a 'beginning of time' and realized how wrong the Big Bang theory was. Marva was imagining an electron travelling near the speed of light and accelerating. She thought it would disappear from view.

"Marva, the Big Bang is big bull bleep."

"So? I can make matter disappear and reappear in a different time frame." Marva had a way, her way, of gloating when she was playing at being brilliant. She was proud of her thoughts.

Johnny heard what Marva said and raced to his notebook to record her boast.

"Young hearts be free tonight. Time is on your side. Don't let them put you down, don't let 'em push you around. Don't let 'em ever change your point of view."

Sebastian missed all of the above. His thoughts migrated to the possibility that reason needed chaos. He was emotionally unable to feel OK with that. The idea of an end to Hilbert's formalist experiment, that truth could be based on sound logic and complete and consistent language structures, was as much a pipe dream as one dared to entertain. Otherwise, Gödel destroyed truth. Nothing remained. The possibility for misunderstanding gave him shivers. He felt his migraine returning. Alicia grabbed his hand.

"Let's go. The others are out the door. We might miss something." She said.

"Miss something? What remains without truth." Sebastian's chin showed signs of emotion as it quivered as he spoke.

"Get over it. I love your smile. Show it. Please."

He knew she was playing him, but for the sake of affection he weighed the difference between truth, an abstraction, and Alicia, a flesh and blood, he smiled. She felt she rescued him from an unproductive place he fell into almost by accident. Alicia was philosophy. This wasn't existentialism, more like objectivity. She knew he was right, no matter what, because she was a Platonist. It was a theorem he could prove; she was sure of it.

My brain is hanging upside down

I need something to slow me down

If there's one thing that makes me sick

It's when someone tries to hide behind politics

I wish that time could go by fast
Somehow they manage to make it last

The Office on the average day

I used to be an A student
I never used to complain
I used to be a truant
But I'm still the same

Bad bad brain
Bad bad brain

I used to go to parties
I used to drink champagne
Now I'm beginning to feel the strain
Now I'm on the Bowery
I can't remember my name

The number on the door was a special secret known to a few: 167. Sebastian knew a few mathematical things he thought undeniable. In mathematics 167 is a Chen prime, a Gaussian prime, a safe prime, and an Eisenstein prime with no imaginary part. There was more to it than that but that's all that snapped into his mind that day.

The door lock yielded to his key and he, followed by the other three, walked into G's office from which they would emerge in their little mob headed to Rudi's car and The Standing Wave.

The office seemed like a shrine at times. Once inside the feeling varied with the person. Marva saw it for what it was a mess that quantum mechanics could not explain. Rudy saw the shrine wherein the G-Universe was explained.

Sebastian was mildly claustrophobic to go with his paranoia. Uncomfortable would work to describe him. He liked to joke. It took

time for even Alicia, who grew evermore interested in him, to get his humor. She would see in him the pain of an anachronistic life. He mentally inhabited the early 20th century European intellectual milieu while physically he was in the last decades of the 1900's American experiment.

Alicia was willingly lost in the piles of papers. For Alicia, G was her first goldmine. Papers, no one had ever read, were stacked around her in piles like cathedral spires, each one a mountain of thought, most of it G's thought.

When Sebastian saw her slack jawed admiration of what wasn't even good fire starter he suspected, his head started shaking as if he were judging her to be insane. In his mind, G's ideas only served to confuse the gullible. He did admit to himself that G was not a criminal. It was obvious that even the Nazi's didn't seem to have cared about him, but that didn't affirm a right to destroy the project of the Vienna Circle whose pursuit of truth withstood the full term of the Nazi era.

M sub 2 wandered around the office, wondering why he had been chosen. He didn't fit. The others were enamored with the task. He was skeptical, if not rejecting it outright. He waved his hands as he walked, mumbling. "That damn number. What the hell is that about?"

There must have been something in the way he moved that drew Alicia's attention. She looked up to see his head shaking, arms waving, lips pursed as he talked between his teeth.

"Sebastian, pick a pile and read. Keep notes. Write questions to ask."

"OK." He said after some delay. "Philosophers know the greater good."

"Yes, we do." She chuckled, handing him a paper by G on the meaning of G's first incompleteness theorem – the one that all the fuss had been about. "Now read."

Rudy had never had anyone seek him except for his brain. He'd lived alone most of his adult life except for a short-term roommate who taught him it was better to live alone. By mid-freshman year, when he started looking for life on exo-planets, he came to the conclusion that he might remain in solitary, as he referred to his life.

Marva had a mother streak. Her mind was focused. She was committed to her QT/QM world and like Rudy she too sought no company. Yet she was attracted to others and the company of others.

No doubt each of them enjoyed whatever challenge faced them on any given day to get along with one another. Their minds were always close to their work and their work satisfied most needs. None of them were virginal. All of them had cravings. All were satisfied by their work, so the cravings did not matter. Now post doc, they each hoped the chance to relax would produce a friend and lover, work could continue, and nature could take its course. The G-Project delayed that opportunity. It also delayed the eventual decision of what to do next. None of them had chosen their desired future. This alone probably explains why they had agreed to the G project. Why not?

Rudy finds an idea

The snow was still too deep to walk leisurely across the meadow between his car and the Institute. His parking space was near the exit from the Path onto the distant Princeton campus. He stood where he thought the Path ended near the Institute as he assessed his chances of making it across without ruining his street shoes. He had tried it once and he promised he would try having patience instead as a better idea for survival.

“Not today.” He concluded. “Someday soon, a month or two.”

He was anxious to walk this walk. As he stared across the meadow, he began to feel unusual, a little lightheaded. He heard voices speaking German very slowly, slowly enough so he understood the conversation completely. It was two men.

Coming back to his senses, he turned to walk the circular route along the clear walkway that would take him to his car. As he walked, he realized the other three were waiting for him to pick them up. He increased his speed.

If I walk fast enough, I can get to the car before I left. He laughed at his thoughts. Then he stopped again and stared as the two Germans began to talk once more. Frozen, Rudy stood staring, seeing nothing as he waited for the conversation to stop. He recovered and raced to his car.

By the time he arrived at the covered bus stop where the three waited everyone was cold.

Sebastian dove into the front seat. “What was that all about? Took you forever.”

Marva said, “You’re late.” Alicia said nothing.

“Where to?” Rudy asked.

“Beer,” M sub 2 and F sub 1 chorused.

“It’s cold.” Alicia chimed in “Let’s go to May.”

“Genau.” Rudy replied as the car sped up.

“Was hat er gesagt?” Marva asked from the backseat.

“We’re going to the future.” Rudy replied.

The Wave on a cold morning

Johnny saw one of them coming. He stood at the bar watching the front door. They hadn't come through the door yet. The clock above the bar said 8 straight up.

"They're like a clockwork. Morning at 8. Then at 5:20, they're back." He said to the barista who turned to start making their drinks.

As if she heard him, Marva pulled the door open bringing in a blast of February weather into the Standing Wave. She nodded in his direction and took a seat at the roundtable.

"Usual? Small Mocha?"

She nodded, took her seat and sat quietly waiting for her mates to come. Her thoughts were about her night's dreams. Time was both heavy and light depending on one's perspective. She looked at her watch. They are late. That's heavy. Don't look at your watch, she thought.

Johnny brought her Mocha.

"The others coming?"

"Guess so."

"It must be nice to have the quiet before the storm." Johnny felt her anxiousness. He liked her. He was older, but she seemed to notice him. He didn't know much about her except she drank mochas and Budweisers. He didn't know her name.

There was a song he wrote and sent to the Ramones the day they showed up. He must have been vulnerable.

"Needles And Pins"

I saw her today, I saw her face
It was the face of love, and I knew
I had to run away
And get down on my knees and pray, that they go away

And still it begins, needles and pins
Because of all my pride, the tears I gotta hide
Oh, I thought I was smart, I stole her heart

I didn't think I'd do, but now I see
She's worth more to him than me, let her go ahead
Take his love instead, and one day she will see
Just how to say please, and get down on her knees

Oh, that's how it begins, she'll feel those needle and pins
Hurtin' her, hurtin' her

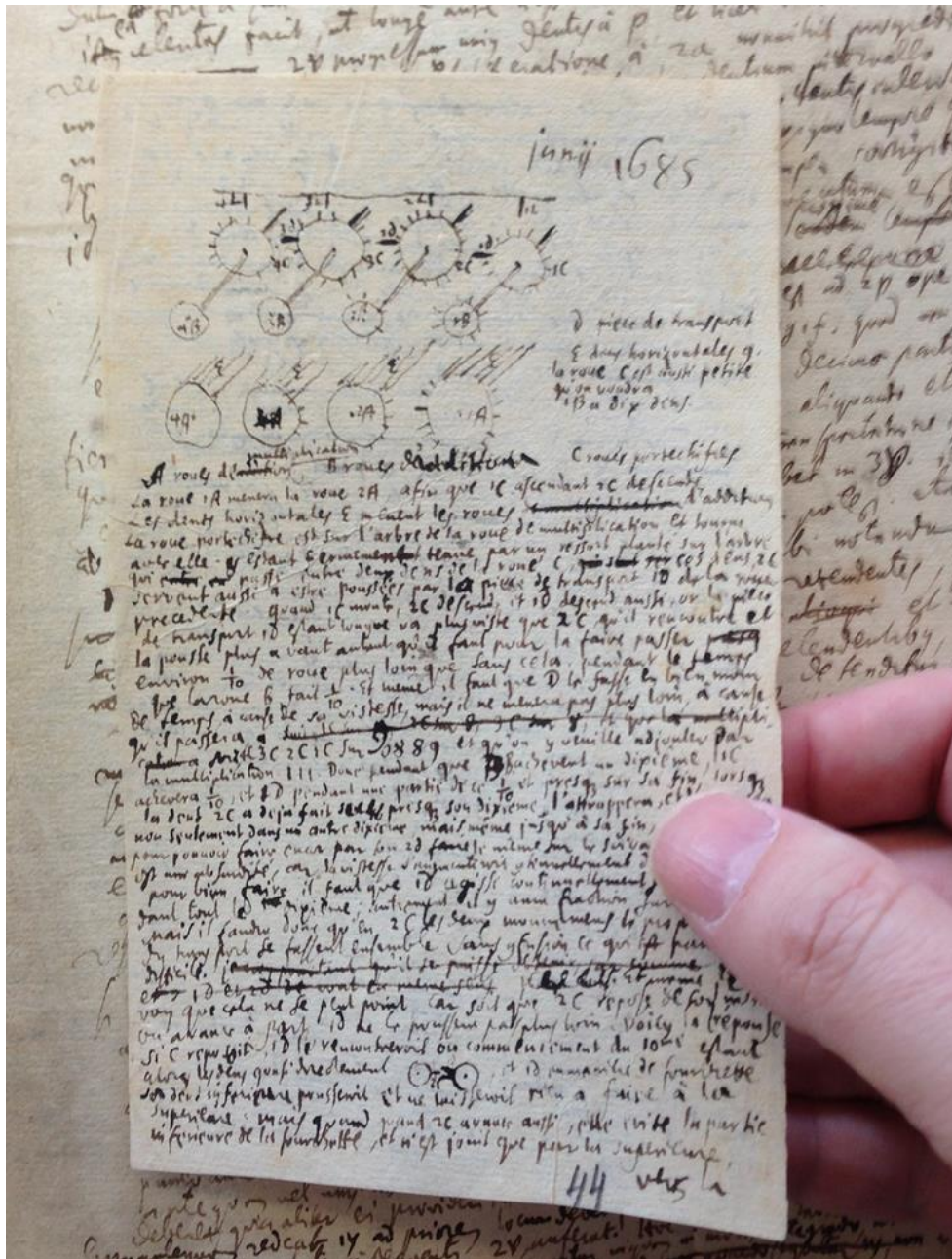
Why can't I stop, and tell myself I'm wrong, I'm wrong, so wrong
Why can't I stand up, and tell myself I'm strong
Because, saw her today, I saw her face
It was the face of love, and I knew

I had to run away
And get down on my knees and pray, that they go away
And still it begins, needles and pins
Because of all my pride, the tears I gotta hide
Needle and pins, needle and pins, needle and pins

The way they rewrote it wasn't really his song. He sensed a connect to it. It felt like him.

Alicia's Experiences

Gödel's office was the philosopher's goldmine Alicia hoped numerous times it would become. Not everything she wished for had been found. She hoped she would find copious writings about his work; a G explains G sort of essay.



So far, she had found nothing that served that purpose. There were many interesting tracts from which to glean G's views. She read his work in his original German making copious notes in English.

Paper piles, such as G had left behind, attract the hunter and the miner. Alicia was a miner. Philosophy has no exact objective when applied to piles such as she saw around her. Miners dig it up, reduce it to its parts, its elements, then draw conclusions about the ore's nature and what can be made from it. Hunters, like she imagined Rudy was, seek an exact form, such as a deer or a pheasant, once he finds it, he consumes it as if it nourished his inner being.

She came upon G's notes for a paper on cyclical time. She added it to the Rudy pile. Marva will read it if she finds it first, crossed her mind.

Alicia wondered about many things. G was a logician whose work affected logic, philosophy, mathematics and physics. Yet his first theorems, those he published in the early 1930's, changed what is known as the Hilbert formalist project – which 50 years later Sebastian still labored for in a profound way and in so doing created a new question.

The old question assumed that someone would prove mathematical systems to be complete and establish a basis for saying a statement is true beyond doubt. G proved the opposite. For mathematics to be certain of its truthfulness its systems had to be complete or we are forced to say we cannot be certain what is true and what is false. G proved Arithmetic was incomplete. Can all human thought be formalized to establish truth was the old question? How will we live with the certainty of mathematical uncertainty G brought to us is the new question?

She could feel her mind reeling from these thoughts. G and his friend Albert had upset several minds. There are conditional statements we cannot prove true or false. Change is an illusion. Time is static not flowing or it doesn't exist. G saw the choice as between time and existence, as defined by the Theory of Relativity, and he chose existence.

A morning like any other morning

They met for coffee, at the Standing Wave, the bar they had come to love, the one where on their last night together Alicia would announce she was pregnant. They had their favorite table. They had their usuals. The staff all remembered them. The four never went anywhere else together. It was like home or a home away from home.

Their actual homes were scattered about the Princeton campus and environs. The university was big enough that they were each certain before the G Project began none of them had seen any of the others in any of their graduate classes.

It is easy to understand. There is overlap in astronomy, mathematics, physics and philosophy but the classes they took in their disciplines were taught by a unique set of professors. Astronomy includes parts of the other three whereas outside of physics none included astronomy, per se. Mathematics had many philosophies including Gödel's but no physics or Astronomy.

Rudy studied Astronomy to find a Cosmology which he considered the roots of all knowledge and belief. The study of exact solutions of Einstein's field equations is one of the activities of cosmology. It leads to the prediction of black holes and to models of the evolution of the universe. He borrowed tools from Physics and Mathematics, but he was a Cosmologist by his philosophical bent.

Sebastian saw mathematics in the same light. He had a philosophy he considered objective. He was concerned with writing a formal proof to establish truth. He saw his goal as challenging considering the growing doubt that truth exists.

Gödel had seen to that.

Marva and Alicia had other points of contact and rejection. Marva thought Physics would become Quantum Physics. To her physics would explain everything using logic and mathematics as her inner ideal physicist imagined.

Alicia sought a new understanding of Philosophy that gave order to existence. It had no name, but it was not Quantum Physics. Alicia considered herself a Platonist, as Gödel was. Gödel had no love for Quantum Theory. Alicia thought of herself as being able to grasp what truths Gödel's rejection of QT might reveal.

Marva had a philosophy, but it was Einstein's. She saw Relativity, Quantum Mechanics, and Heisenberg's Uncertainty Principle as descriptions of any human's role in history: Nothing really is certain, until we look, until we pay attention to it. The future is up to each of us in this way. She thought that just looking for what had meaning gave the thing meaning.

"It's complicated." She told Alicia that morning at the Wave. "Some of us search for reality and find it becoming real right in front of us."

"Does that mean you are making reality, making it for everyone not just yourself?" Alicia knew the answer.

"Nope. That defines a mental illness, I think. More like it is our species' project. We work it out together each of us influencing the outcome through our attention." Marva realized they were both correct in their individual views no matter whether they agreed or not. By this point she knew Gödel was correct. There are true statements that cannot be proven true or false for whatever reasons. Maybe with a different way of seeing reality these incompletenesses could be resolved.

This morning, like the others since the snow had started to melt, they came in one at a time from wherever they lived. On their silent walks

they were dreaming of coffee. They sat patiently waiting for the waiter to bring them what they wanted, their usual. Johnny delivered their drinks wordlessly, perhaps in awe at the oddity each of them offered. The four almost newly minted PhD's looked and sounded like scientists and intellectuals. The staff was used to seeing Princeton students. These people were different engaged as they were in a project no one could grasp the meaning of not the waiters or the four. It was too early to imagine its end so the project itself was worthy of study as were the four people engaged in it.

The Path

The March winds had subsided. April had days where only a sweater was needed. With May the temperatures had risen enough to melt the last snow. Rudy was thinking about crossing the meadow for only the second time. He stood staring across the field to where he had parked his car. His eyes traced the trail from his car to his feet. A voice behind him broke his concentration.

“Too muddy for me. I’ll wait for spring and a 70-degree day.” He turned to see Marva standing behind him.

“I wore my good shoes, so I agree with you for today. I’ll prepare for tomorrow.” Rudy had turned back to gazing in the direction his car. She grabbed his hand and pulled him with her as she started to walk around the field on the sidewalk the City had built forty years ago. He smiled and set off with her in what was a counterclockwise walk around to his parking space.

“I wonder what they talked about.”

“Who?” He was not himself as he later recounted.

“E and G on their famous walks across the meadow.” Marva looked at him as if he had lost his senses. It was only a flash across her face. Rudy caught it anyway. “The Path. Remember?”

“It’s all I think about.” They fell silent for a few steps.

Rudy had a mild inspiration and broke the quiet to say it. “Esthetic Beauty.”

“What.”

“Your Gödel number translated into words. Esthetic Beauty.”

“I’d ask how you figured that out, but I’m afraid I might not understand.”

“Nah, you would. It’s just math.” Rudy smiled his knowing smile.

“What do you suppose it means?”

“Esthetic Beauty? Simple, exquisite, complete, essential. Your definition of beauty as in Quantum Physics, a description of the Universe?”

“Yah, like that.” Marva thought all Physics would become Quantum Physics. To her physics would explain everything using logic and mathematics as her inner ideal-physicist imagined.

Rudy had studied Marva’s ideas for the few months they had worked together. He listened to her as she described perfection: To understand what is actually happening as opposed to seeking a faith in data or anything for that matter. He realized her Gödel name was correct.

Somewhere he read that familiarity breeds reality. There is no Königsweg—no royal path for avoiding strife. When a stranger asks a native on the street how to get to the Vienna Philharmonic the answer is "practice, practice, practice". There are no short cuts to those platonic realms of Mathematics, neither to the gut experience of mathematical intuition nor to the vision of its beauty.

Marva was an expert in the quantum mechanics which she pursued to learn the nature of space. Marva used a microscope to see empty space between molecules or electrons. She focused on very small things using very big ideas. Rudy used a telescope to see empty space between galaxies or solar systems. They had something in common, but questions remained about whether or not the two spaces were the same. Rudy thought they were and used QM to explore for exo-planets that so far could only be said to exist beyond our sight.

While she was an undergrad, she had been part of a team studying electrons traveling at or near the speed of light. The electrons disappeared from view. Then reappeared elsewhere. Sometimes 'reappearing' before 'disappearing.'

Minds at work attract minds at work. Marva and Rudy fell in love in one of many ways. Sex was a non-issue. Guided by true love [truth], those who knew easily knew how to find those who knew.

Someone will ask, "When did they decide to be in love then. Did they ever know or were they unaware of it? Where did it happen and how?"

Someone else could be more patient. Age grows awareness of the many means that leads a human to the brink of love and beyond. It was not Sebastian who decided to love Marva. Nor was it Alicia's idea to find a mate in Rodolpho.

Of course, Marva loved all of the others as the others loved her, but emotion is not the only factor. The heavy force of nearness, sharing both space and ideas, exploring each other in ways beyond romantic thought brought her to want the company of the others. But none of them alone.

Alicia watched for the signs, the ones that told her something unusual was happening to her friends, as they became as she did a lover of

another to the exclusion of the rest. When it happened to her Rudy was transformed from a workmate to a life-mate.

Sebastian was not so lucky. He had no family or friends from his past. At least he never talked about them. He may not have understood the feelings he had for Marva who was much like him. Marva became special to him in a way that was not missed by Alicia but missed by Marva entirely.

Marva and Alicia

As they stood on the sidewalk looking across the meadow in the direction of the Institute, they looked at each other as if they were about to dive together into a raging river. They had no idea what they would encounter but they knew it was going to be life changing.

They looked at each other, held hands, and stepped off the cement onto a solidified river of mud.

“What happens now?”

“What’s on your mind, Alicia?”

“If there is a god it must exist without time. The nature of a god would include being un-illusioned by time. Gödel’s realization is that his theorems describe the limits of human experience and the existence of something beyond the imagination and accessible with intuition.

“As the formalists sought to limit the scope of the human intuition in the search for truth, they found that their attempt was egotistical: They considered themselves as gods. Even though they thought of themselves as gods they demonstrated that a real god laid beyond their reasoning and their imaginations.

“Is our knowledge of nature so weak we cannot figure out what it is we see?” Alicia may have been joking but once the words were out in the open, they sounded somewhat trite though the question was valid. She had dropped Marva’s hand while she spoke and when she was done talking, she grabbed it again. Marva squeezed her hand and began to respond.

“At gymnasium I studied philosophy and theology in the same class. The instructor told a story of someone she called Saint Anselm. She said

that reasonable people sought to remove the weaknesses inherent in their imaginary beings raising them from lesser gods to greater gods.

“She said we seek perfection in the gods that we as humans do not share and only in this way can we find a being to worship.”

Marva squeezed her hand once more and dropped it. Alicia took it as an invitation.

“Ah, yes. Anselm. ‘Since we have beginnings and endings, then something that has a beginning but never ceases to exist is much better? Something that has neither beginning nor end is better still, even if it is always moving from the past through the present into the future?’ That one?” Alicia needed her hands to be free and even in the early spring cold her hands were waving about shaping words into imaginary pottery.

“You know this. Good. That passage goes on. ‘And that something that in no way needs or is compelled to change or move is far better even than that, whether any such thing exists in reality or not? Can such a thing not be thought? Can anything greater than this be thought?’”

Marva said in the delight of finding someone else who spoke the Neo-Platonist view.

“It ends, ‘So there is in fact a way to form an idea of that than which a greater cannot be thought.’” Alicia enjoyed the common knowledge.

Marva squeezed her hand. They turned to each other as if congratulating one another for their memories.

“What I make of it is that any theory of god is weak because our experience is limited by nature? All we see is nature and that we only know poorly. We think ourselves separate from nature. We are so weak we need to fear others. Is any theoretical or imaginable god too weak

to be the creator? How about an intuited conclusion which is beyond evidence and imagination?”

This walk was the first F sub 1 and F sub 2 made on The Path. They shared a behavior like worshippers in a cathedral. They quieted until Alicia found a new shiny object to pass to Marva.

“If we walk from here to there haven’t things changed?” Alicia spoke down towards her shoes with a grin on her face.

“Nothing has changed.” Marva spoke with certainty. She had tested this voice for its believability.

“Nothing?” Alicia was demanding as much certainty from Marva as she seemed to want Alicia to accept from her.

“Your perspective, your memory nothing really changed just your view which is lodged in your memory. E and G said change and time are illusions – products of imagination. Reality is the sum of many human perspectives, none of them is the last word and together they do not do it justice.” Marva made a gesture of certainty with her hands that required her to drop Alicia’s which gave Alicia freedom to talk again.

“Why cannot the objective truth be the truth?”

“There is no object for which a specific perspective can be said to be the one that describes the object. In physics we have the Uncertainty Principle and in Mathematics and Logic G’s theorems about the necessity of intuition. In theology there is creation. An event. Did it happen? No?” She waited a second holding Alicia’s hand. Then with more certainty in her voice, she said, “No. There was no beginning and there cannot be an end.” She dropped her hand.

“So, Marva,” Alicia said, “The search for truth in QM sounds close to a ‘search for god.’ If there is no way to prove all arithmetic propositions,

this must say something about the nature of our scientific knowledge of god.”

“I prefer to think of the problem as not a lack of knowledge, ie Truth, but a confusion we cannot face because we cannot accept the conclusion.”

They reached the other side of the meadow. The sound of the ice crunching under their feet signaled the end of their conversations for the morning. They had released each other’s hand. Before they knew it, they were hugging as if they had survived the jostling of the river waves without drowning. They laughed in joy and made their way to the IAS room 167.

Love and Freedom

Marva probably knew before Msub1 and Fsub2 did that they had bonded. It may have been outside their imaginations, but it was visible to her.

The two had spent most of the day attempting a translation of G's seemingly erratic German mixed randomly with Gabelsberger. They spoke quietly, too much so for her to make out their words. She saw their smiles and the focus they gave to each other's eyes. One sentence in particular took them an hour by Marva's reckoning before they moved on. She would have offered help but then she noticed it was not knowledge of G's thinking they were seeking. It was more a means to a romantic end.

When this realization struck her, she concluded she didn't feel for him the way Alicia did. He had told her that she was Esthetic Beauty in the group mind. It was her love for Einstein that drove her intellect and there really wasn't room in her heart for a man and another set of ideas beyond General Relativity.

As an undergrad she had two such friends who spent most days together in a harmony that she could see but did not understand. Then one day with no warning things changed. She saw them here and there but one at a time. Neither mentioned the other.

They each resisted questions she formed with a design to trick them into discussing this change. She persisted. They each persisted to their end until one spoke to her in a way she had not forgotten.

"Marva," She said. "I am free of him and he me. You have yet to encounter the exquisite trap that love, or maybe any emotion as strongly felt, sets not only for your heart but your body. You know the

magnetism. It is strong and the slow remaking of your mind that pushes out the symphony of General Relativity for the less universal notions of the Special.”

As Marva remembered her friend’s metaphor, she saw it in her own fears about her future. Where she wanted to be in five years did not include one more love. What she was seeing in M sub 1 and F sub 2 was a dangerous betrayal of their training and discipline.

That evening at the Wave, Marva was uncharacteristically quiet. Alicia saw her silence as a form of grief. She determined that her friend had come upon a place where she could only be lonely. Alicia enjoyed the wonder of the human mind to make sense of situations without the necessity of words. On instinct she pressed her for communication.

“My dear friend, Esthetic Beauty as G might have thought of you, there is time for all things. There really is no limit. My father loves my mother but at times their relationship is too small for his desires. He told me he fell in love with a mutual friend. They met once with romance in mind, at least in his mind, but they only met to say good bye. He was sad he told me, but he was glad they had a parting. He loves my mother still.”

Marva smiled. “You can see inside me sometimes. I like that about you. I am jealous of your relationship with Rudy. I cannot afford that. I am afraid of such a magnetism.”

“There are times for all things under heaven.”

“I wait for my own epiphany.”

“Let’s keep that subject for The Path.”

One good day is all it takes

The paper on time loops, the cyclical universe, sat in Rudy's pile until Marva found it. She made a copy and put the original back in the pile. She read it slowly. Then she reread it. G's reasoning involved a new solution to Einstein's equations defining special relativity.

Alicia found G's notes on experiments to establish empirical evidence to demonstrate his thesis on cyclical time. She asked Marva, the most fluent German speaker among them to translate the important parts for her. Alicia had read German philosophers in the original text, but technical language was often new to her.

"What this says is that G was hot on the trail to find evidence to support his view of time. Some of this is a description of one means he was interested in pursuing." Marva sounded excited by what she read. They spent a morning going back and forth between the two languages the German in what she read and English to converse with Alicia in her best language for listening.

Then it was lunch.

Burgers at the bar

They all went to the Wave for a lunch of burgers. None of the four were physically large. None of them ate very much. They resembled gnomes, Johnny thought. They came in twice a day during his shift for coffee, sometimes lunch or later for happy hour. Today they seemed different. Maybe they found something that is scaring them, he thought. He decided to hover near their table to hear what they were saying.

F sub 1 and F sub 2 were glued into a huddle. The words empirical, looping time, Gödel, Einstein, proof, witnesses were heard by the hovering Johnny. Rudy and Sebastian were locked into their favorite argument. Was cosmology superstition as Sebastian argued, rather than provably true. Rudy could tell Sebastian was overwrought holding onto old ideas. Johnny knew Sebastian would never win. He couldn't say why he was sure. Rudy saw Sebastian's downfall when he began using G's reasoning as his own. Rudy did not criticize him because he had translated Sebastian's Gödel number. Peebles saw him as a Blessed Fool. Rudy translated this into devil's advocate.

"Sebastian, what do you make of looping time?"

"Never going to find empirical evidence because the notion is non-physical." Sebastian stayed with his formalist view despite the incompleteness of mathematical structures. "Look, the question is do we need another explanation for time? And why do that? What is the motive?"

Rudy answered, "Epiphany? Maybe it's only in the eyes of the beholder. I see the motive as the one G stated. If change is an illusion and time denotes change, then time is an illusion. Presuming illusions have real manifestations what is time's real manifestation? So, G sought a new

way to see time.” Rudy said. “Does that mean he is seeking a new kind of time?”

“Excellent observation.” Sebastian sensed his view was evolving. “He talked about seeking an epiphany.”

‘Yup, an epiphany. Sounds theological.” Rudy said. “Maybe. Maybe a breakthrough in his thinking. Maybe so more people would understand his ideas. He’s an atheist who proves the existence of a god of a beneficial god. He wanted to be a mortal who proved time did not exist. Relativity is real. Absolutes maybe not. There of course is death. How do you defeat death?”

“He sought immortality?”

“Who doesn’t?”

A Weekend at Standing Wave

Johnny was distracted. It was the Saturday before Graduation week. Soon ceremonies would take over the entire town. He was leaning against the desk near the entrance where the reservation list was kept.

The number of reservations were less than normal. Even with a band few had made plans to come. He made note to change the schedule before Grad Week next year.

Saturday morning was rarely busy. The coffee drinks drew interest, but the morning rush began nearer ten than eight. It was near eight. The door opened, and Rudy and Alicia walked in. It was as if the sun rose in Johnny's mind. His smile broke records.

A round of good mornings accompanied their walking towards the big table. Johnny followed. Promised drinks and went off to get them. A servant? Nah. Look, he said to the part of him that demanded respect for the lightness of his being, be peace. It's the way to go. Remember to be honest. Be light along the way.

The Path

The first day it was clear and dry Rudy and Alicia walked together. A late May snow had melted over the past few days. This was their first time on The Path together. They did not talk though they walked side by side.

Rudy walked with his hands in his pockets, shoulder to shoulder with Alicia from the Institute to the edge of the meadow. The Path from the Institute to Princeton's faculty housing laid out before them.

There must have been something in his mind because he did not look at her. He did not talk to her. She hoped it was the experience of The Path, alone, that he sought. She followed suit and tried to feel the spirits of the two amazing humans that had frequented this route.

The next evening, they walked together again. On this their second time, Rudy walked again in silence. Alicia followed his pace, growing a little more agitated with each step. She turned to look at his profile.

"How do we begin this conversation?" She asked. Her hands were in light gloves and a sheaf of paper in each one.

"Seriously?" He asked without turning his head to see her.

"I want to know what you know. So, emphatically, yes. Please begin anywhere." She smiled at him. He took an inbreath.

"Einstein said change is an illusion. Gödel said, time like everything else is an illusion, but more so. Time as measured by change, you know, the past, present and future are therefore also an illusion." Rudy was

excited by someone to talk to in the terms that defined his inner existence. Rudy fell silent and turned to look at her. She was ready.

“In a world where we seek certainty, there is nothing more certain than what time it is. Or is it?”

Alicia knew the answer. “Can an illusion be called certain?”

“In physics, there are only approximations for number, equipment is built to tolerance not to perfection, measuring devices have built-in errors, human eye observations are subject to bias. Certainty is an illusion.” Rudy’s breathing had become labored as his excitement caused him to hold his breath for talking. “Gödel ended the notion of certainty in logic and mathematics. The quest is over. Now, we live with the approximate world where the best we can say is “that’s close enough.”

She wanted to hug him. She stopped walking. He stopped to listen to her. “All of this because change is an illusion? What did he do with himself once he decided this?”

“He was pissed for almost half a century because people misunderstood what his theorems were about. He was after some sort of personal epiphany, maybe enlightenment that would leave him with a new way to see the universe and newfound skill to communicate what he learned. Sound familiar?”

She was up to the challenge of that moment.

“Roger Penrose: “The laws of physics produce complex systems, and these complex systems lead to consciousness, which then produces mathematics, which can then encode in a succinct and inspiring way the very underlying laws of physics that gave rise to it.”

Rudy responded.

“A particle exists in a fuzzy state of uncertainty...but only until it is observed. As soon as someone looks at it and takes its measurements, the particle seems to collapse into a definite location.”

“Rudy,” She smiled into his face, “Never mind.”

“What?” Rudy had no idea what ‘what’ was.

“I want to do something real. Something that is more than an illusion.”

“You mean, how do we make something real happen?”

“Yes. If change, time and who knows if everything is an illusion then what is real.”

“That’s too dark for me. Feelings might be real. Pleasure might be real.”

“I need some real. What have you got?”

“Ah.”

“Let’s have sex. Right here on Kurt’s path.” She was grabbing his arm pulling him to her and her to him.

“Now?” Rudy looked around, seeing no others walking nearby, the notion must have seemed almost doable. “It looks messy, rolling around in the mud.”

“Your place? How far is it? Do you have time?”

“Funny you should ask.”

Time traveler

It was spring when they began to take walks down the Path. Everyone took The Path to get home because it was the shortest path to Rudy's car, the Standing wave and then to bed. On one of those dreamy late evening walks in May, Rudy revealed his dreams of travelling to Alicia.

They were quiet for the first twenty steps or so when she said, "I think of you as a time traveler." She wondered if she made that up or if it were true. "Is that right?"

"Time traveler?" He acted taken by surprise. "Yeah, you caught me. That is the point of my mission in G's piles. If I am to learn anything from this effort it would be to find a comfortable way of describing time travel's potential." He paused staring forward down The Path. Her eyes followed his. His microsecond long pause to think led him to say, "Why follow an idea that goes nowhere?"

"Sounds philosophical to me." At the time, she thought about reaching for his hand. Her need to comfort the uncomfortable was her motivation for philosophy. She would see herself as a guide leading her followers through the thicket of thought. He was not like Sebastian, depressed, needy and a follower of a dead past.

By May, they were an item. In June they would move in together.

She described him in her autobiography as a time traveler because, as she understood Relativity and Quantum Mechanics, he would need to be one to see an unspoiled earth. Philosophy says little about travel to distant galaxies but when it does speak it speaks about time travel.

“The way the illusion works is simple. Anything you can see or hear is a message from the past, your past. The thing you see or hear was a thing of the past. Galaxies come and go. The ones I see may be gone by the time its light reaches my eye.

“There is no present state of the universe or so Einstein Proved in 1905. The universe is presented to us as pieces of history from the eternity of the U. As the apparent universe ‘changes’ we measure the time in subjective time [that which we perceive] compared to apparently infinite possibilities each photon represents.

“This means that there is no Time anything happens because ‘each observer has his own set of ‘nows’, and none of these various systems or layers can claim the prerogative of representing the objective lapse of time.’ Gödel thought that the existence of time requires successive events to come into existence and go out of existence, and that this must be an ‘objective’ process.”

Alicia was thrilled by the sound of his voice as he described from his heart the love he had for the Universe.

“I see why Peebles named you the Eyes of God. That all makes sense to me.” She grabbed his arm and they walked in silence both of them with smiles glowing, until she couldn’t hold her mental explosions to herself. “When we take in the beauty of the stars we are traveling to the distant past.”

He sighed as he looked at her. “You and I are going into the future together.”

“Time will tell.”

They broke into what must be called peels of laughter. Laughing together was one of their favorite moments. The deep meanings of

physics and philosophy mismatched the vocabulary of the human condition in comical ways.

The Reports

The office had slowly been emptied of extraneous papers. G's laundry tickets were safely packed and hidden away in the basement of the Institute along with hundreds of miscellaneous scientific papers by others. All that were left filled a three-drawer file cabinet and a couple of banker's boxes.

It was spring. In four days, they would receive their degrees. They sat around a table. The largest one that could fit in the room. The desk and other items were gone, replaced by four blackboards, upon which the various members had written or drawn their working thesis, the sum of which they humorously named "What does it all mean?"

The morning "it" all became clear was a rainy but colorful day in mid-May. They had hurried to the office from the Standing Wave where Johnny had caffeinated each one in the way they preferred. The table had four chairs but only at rare moments were all occupied. Alicia liked to walk as she talked as did Rudy. Someone was often at the boards adjusting or editing their work of the last four months.

Marva thought of herself as shy. She had recently begun to enjoy private conversations across the table. Her willing conversationalist was Sebastian. Today he was silent. Normally moody, at moments like this he was taciturn. Slouched down in his chair, he was shaking his head.

"It is all wrong somehow. I am stuck." Sebastian said. This was a deep funk even for him. "Erase it."

"Damn it, Sebastian." Alicia, who was nearest the board marked 'Sebass' and under that 'Blessed Fool,' was pacing back and forth, holding her hands as if she were trying to grasp something, an idea that just wouldn't come to her. "You have to say what you think and not just

repeat what your masters tell you. Do you really want me to erase it all?"

She held the greyish eraser up pointed towards him, showing him what his words had meant to her.

"No. I am too emotional. This is confusing to me. Give me another day to find clarity."

Rudy laughed. Alicia sighed as she walked towards Sebastian. She patted her friend on the back. Marva saw Sebastian's plight for what it was. She was sitting next him and could sense his tears rising within him. She reached for his hand. He withdrew his. She smiled. He stood.

"You don't need me. I am a joke to you." He said.

"Nope." Marva reached for his hand again and caught it as he started to withdraw.

"Wait." Sebastian spoke with a tremble in his voice. Then as he continued, he found more command. "I have pride in my achievements. A PhD. Respected institution. I am M sub 2. Amazing opportunity here. Amazing workmates." As he said that he gestured to the others and with more lightness. He stood up and faced them. "Friends. We will walk for our diplomas together. Then we will return to this office for another six or seven months during which we will take the work on these boards and express our experience with G's papers through our chosen discipline. That's big. I ask for time to become what I intended: a doctor in the Formalization of Mathematics. My ideas are changing. G and you have been a strong force for unifying our ideas. I have a feeling about my goals are evolving and it's just too soon to admit it."

There was a round of applause. Hugs were exchanged. Then they all sat down.

Alicia had a notebook. After she found a clean sheet and her pen, she asked for order. "Let's meet, right now, and discuss our goal for our project here. Even if we are not ready to commit, we can talk about the effort. We have much to pick from."

Sebastian perked up and offered "Logic."

Marva gestured and accepted unstated recognition, then after a few seconds of thought said, "The value of Quantum Theory."

"Time travel." Alicia offered.

"Yes. G and Albert had an interesting idea." Rudy stood and talked as he walked from one end of the office to the other. He stopped pointing at the three-drawer file. "There are diaries in there that describe experiments G and E devised to produce empirical data supporting their ideas."

"There's one for time travel?" Alicia added.

"Yes. It is extensive and dense. It will take time to unravel it." Rudy was near breathless. "Wait. First, we need vocabulary. Time or the passage of time is illusionary, according to both G and E. Yet we need time, can I say 'real time.' Define our usage of the word first so we are not caught in a logic trap before we begin."

"Seems we need to prove time is illusionary or change is illusion first. We need an experiment to demonstrate it."

“I agree but my problem with the time travel paperwork needs mentioning. There were fewer papers on this subject than I was hoping for.” Rudy was checking his notes. “I was expecting more from the correspondence between G and E than I found. There was however a letter from the Institute to G inviting him to nominate students who could review Einstein’s papers. I am thinking there may be more in the Einstein equivalent to what we are creating for G, so I want to go through those reports.”

“Who has time?” Marva said. “Next you’ll want to review everyone’s. It is not our job. Stick with our assignment.”

“Rudy.” Sebastian spoke with his usual nervously contentious voice. “Let’s face it. Five months in and we still do not have much to offer the Institute about G’s work. I should say we have no common work. I prefer to come to grips with what we can do rather than make impossibility our lifetime study.”

Rudy smiled. He always met terror with happiness. His family had been his teachers until he was sixteen when he enrolled in school. The first day at the local community college he was confronted by his calculus teacher. She asked him to stop mumbling while she talked because it made her nervous. He grinned at her and promised to cease his nervous habit. He did. His grade in the class was an A. He learned more about human kindness than mathematics from his mother and father. Of course, he learned everything they knew about math.

“I am for finding a common theme, if we can.” He smiled again. “I’ll stow my Time Travel enthusiasm until then.”

Night at The Wave

Marva and Sebastian sat facing one another at a small side table in the section of The Standing Wave closest to the bar itself. They had been there for hours, their heads inches apart. When the crowd and the din dispersed, they stayed glued to each other's ears.

"Formalism sounds stuffy, more than Quantum Theory, that's for sure." Marva said in a soft voice. He watched her lips as she spoke. He shook his head.

"Not for me. QT seems more like theology than science." Sebastian was not arguing with her. They had this conversation before. It was a territory they had entered from many directions. They both saw it for what it was. She reached out to him. Her hand laid there closer to him than to her. He smiled, extended his and gripped her hand.

The subject changed to tomorrow's ceremony when the four would become doctors at last.

As they talked, Johnny, working the middle of a double shift, wandered slowly by their table and stopped.

"Almost Doctors, a refreshment? On the house for a celebration of an achievement?"

They nodded, and he fled without asking their preferences. He knew, and they knew he knew.

Time passed and in the seclusion of each other's eyes, they would never have ventured a guess as to how much. He returned but they did not notice. Johnny saw that and stayed beside them to listen to their dialogue.

"Sebass, are we in love?"

“What else is there? Not unlove. Not nonlove. So, with logic assisting us, I would come down on the side of love.”

Johnny walked away and rushed to the bar and his pile of lyric attempts. He grabbed a sheet and a pen. They sat there, love-staring into each other while Johnny wrote his take on their heart to heart.

No matter what you do
I give my heart to you
And oh-oh-baby
I will give it to you

No matter what they say
Yeah, we can find a way
And oh-oh baby
We can find a way

That Night it all became Clear

“Why don’t you come to my place? Its small but intimate we could experiment with breath alterations.” Rudy was unusually forward but they had been talking about epiphanies related to mind-altering drugs and physical alterations such as rapid breathing.

“Sounds exciting to me but it is a commitment beyond where we stand.” Alicia was committed. He was unconversant in those pleasures that attract and trap men.

“Yes, it is a slippery slope. Epiphany awaits, some people think.”

“Is it the destination?”

“More likely the journey.”

“I am on for the journey.”

“Which I hope never ends.”

“M sub 1, you are cute.”

It was the romance of G’s office that cemented them in pairs. It began with the love of idea, to become an ideal of love. The office was of course un-romantic and the papers equally so. But the office was small given the piles of paper, such as a hoarder keeps, filling almost all the space. Imagine the beginning with the space available demanding nearness and the process of moving side to side and the incidental touching breaking the barriers of aloneness the four scholars had maintained most of their recent lives. The nearness begat contact that begat intimacy. As they paired, they found a privacy to explore their new found caring about another.

Sometimes if one wanted to overhear the others one could catch mumbled words, seductive, warm but in whispers too low to make out exactly, so these became the stuff required by the imagination to invent something of beauty and perhaps a personal peace to cherish.

M sub 1 wanted to describe his love for F sub 2 using terms that were so artfully defined he was sure she would believe him. Then he 'knew' she did not really love him and maybe he did not really 'love' her. It was confusing. He was hoping for true love, that hard to define something. They each sought a relationship as lone warriors seek treasure that in their hands would buy kingdoms of the mind and be valued far greater than the richest fortune ever amassed.

In pairs they were in combat of one kind or another. Ideas were that way when one had time to think out loud in the presence of another equally in love with their own ideas.

"F sub 2, I love being near you. That's why ..."

"I know. We could but ..."

"There are many universes. In each a different outcome: In this one what is it? Love or friendship?"

"This one? Come on, Rudy. I want it all since you insist it is all available. If there is a god and love were a god, it would be powerful enough to do anything and we would be the beings made of parts of god's being and therefore as powerful as god if we only knew."

"So, you'll move in with me?"

"My place is better."

"No closets."

"Who needs clothes?"

“Let’s try yours for a night and then mine.”

“Yours first, I need to do laundry.”

“Me too.”

“So, it’s off?”

“How about doing laundry together?”

“Sounds profound. Mixing underwear.”

“It’s off.” She laughed. He laughed. Someone shushed them, and the day went on as the shuffling paper covered all sounds but the giggling.

M sub 1 and M sub 2 at The Standing Wave

The bar was unusually calm for a Wednesday evening. Marva and Alicia had made a date to shop for summer clothes. They left their nightly ritual much earlier than normal for either of them. When they did, Rudy and Sebastian moved from the big table to sit across from one another at a much smaller table. They were past their conflicted arguments. They were moving on. After months of practice, they had found they enjoyed each other's company for discussions. That was Johnny's observation. He stood nearby and saw in their faces what he did not understand from the content of their debate.

"I see our dispute as experimentation versus introversion, which you'd think would devolve into intuition v formalism, but no." Rudy was not emotional, not caustic or sarcastic, not apologetic or confessional. He was matter of fact.

"I agree. We either act or think. Both are limited: One by nature and the other by the limits of the possible. To act to discover a new truth we explore the universe with intuition and experimentation." Sebastian swirled his remaining beer a habit he had regretted beginning since it made no sense. But he persisted.

"Formalism comes from introversion which, I guess says we think rather than act."

"There might be a physical demonstration but mostly formalization involves the use of logic i.e. correct thinking to devise a conclusion about where truth comes from, or so we like to believe." Sebastian finished his beer. Johnny noticed the unmistakable tipping of the glass to its extreme.

“We live in an approximate world. The truth we settle for is the result of physical observation – not normally exact but close enough for our purposes. The interpretation of experimentation is open to biases resulting from introspection and ideology.”

Rudy listened intently to Sebastian hearing new ideas from him that he himself had heard before but from him it was the first time. He wanted to be angry about this compromise science had to make to reality. He thought about G’s death blow to the notion that mathematics was god’s science. It was, but the facts were beyond reach and the logic of it meant beyond reach was beyond argument. Johnny returned with a new beer for Sebass which broke his rant, giving Rudy a turn.

“It is interesting to me that the numerical constants we use in science are not Rational numbers but transcendental, complex and infinite sequences using terms such as Pi, e and i.”

“In the formalized world there can only be exactness. No if or ands or buts.” Sebastian offered.

“No maybes.” Rudy was tired of hearing this line of argument.

“Precisely.”

“So, what is the beef with Gödel?” Rudy said with a hint of boredom that M sub 2 caught.

“Rudy, he pissed on our parade and now we struggle to conceive what comes next. How do we help the formalization process? Truth and proof matter. If they are lost, we might see society crumble under its own weight.”

“Gödel was young when he wrote his theorems, the ones you are referring to. He might have been a bit arrogant. He was both attracted

to and repulsed by the Formalists. Some thought he knew all the while they were wrong.”

“Wrong? The great Formalists were great thinkers.”

“Gödel was one of those for sure. But not a Formalist. He was intuitive aka a Platonist and maybe he got bothered because the Formalists wanted to restrict intuition the elimination of which Formalists held as a goal. Gödel may have thought Formalists were more like religious fundamentalists than mathematicians, logicians or philosophers.”

“Are you saying he attacked the Formalists with his theorems?” Sebastian began with a raised voice. As he saw Rudy’s grimace, he adjusted his tone. “Maybe he could have offered a means to conversations that would have fostered understanding? Sounds complicated.”

“Yes, complicated. I have my own ideas but like yours they are a distance from complete and consistent.” Rudy wanted to halt the discussion, but his method did not relieve Sebastian of his apparent heartbreak.

“An interesting admission. But you are a cosmologist. Gödel seems distant from your field.”

“His model universe includes time travel which is presumed to be travel to the past.”

“Yes, his solution to Einstein’s equations with the loops.”

“That’s the one. He is speaking through QT as a Cosmologist or a meta-Cosmologist, so he was in my field. We shared an interest in showing a rotating universe. It fit his model. Funny his thesis blew up the Formalist idea and mine will blow up the Big Bang theory.”

“Then you are like him. Now I get it. Or get you.” Sebastian laughed.

“Maybe so.” Rudy paused and drained his beer. “Sebastian, I am ready to go.”

“The piles await us for another day.”

As they turned to leave, they saw Johnny sitting at the nearby oak bar looking their way. As they passed him on the way out, they nodded. Two steps later Rudy pulled Sebastian to a stop. Rudy pointed back toward Johnny.

“I am going to say hello. See you tomorrow.” A short handshake and Rudy returned to Johnny.

“Hi. Name’s Rudy.”

“Johnny.”

“Thought I’d sit a bit, have a beer, find out about you. I am curious. This place. The bands. I hear you write lyrics.”

“Glad to meet you at last. I have spent a bit, as you say, watching you. I studied drama and whatever you are up to is energizing you in ways I’ve never seen. Dramatically.”

The bartender came for orders and returned with Rudy’s beer. Johnny raised his coffee cup and they toasted their good fortune. Johnny noticed the question on Rudy’s face.

“I don’t drink on the job.” Seeing more questions Johnny kept going. “I am the stage manager and night bouncer. Have been for nearing fifteen years. None of you stay after happy hour so you’ve missed a few beats.”

“Afraid we’ve had our heads in other things. We first saw each other, what, nine months ago. Just learned your name.”

“See, you missed me. I didn’t miss you. I feed off people like you. Seems you are not that way. I look for surprises.” Johnny stood and announced he had work to do. Rudy expressed his wish they had more time.

“I am here from 6 to 12 and 6 to 12. Come by with time and I’ll be here.” With that they parted.

Second meet with Peebles

Peebles sat on the corner of the table in room 167. The Doctors' blackboards were arrayed behind him. The four were sitting with a pile of papers before each of them.

"Where do I start?" Peebles asked. It was September. It was hot outside. Peebles was about to start classes again after a summer off with a half-month in Spain studying *quien sabe que*. He had not spoken to one or all of them since the day he handed them the key to 167. This might be his last best chance to influence their output now that they had a good piece of time to familiarize themselves with what was in the room. He called them all individually and invited himself over.

"Dean, we have a few issues to bring up, but this is your show. You could go first or not. Your call." Of the four only Marva had the presence to talk. The others were caught up in their own ideas and not able to imagine how to begin discussing their issues.

"First, thank you for your monthly reports. I was glad that you had initiative enough to include the IAS board. Sadly, no one has read them that I know of. Workloads are heavy and even if it is fun to read who has the time?"

Marva said nothing. Alicia spoke.

"We noticed no one was responding except to indicate that a file somewhere was opened to contain our product. I, personally, was unfazed about this until it dawned on me that the Institute was following a policy that indicated that there had been many such groups of post grads doing the same type of work for the institute in past decades."

People who have been in such heady environments find the territory difficult for the sensitive and the first timers. The rules are unclear and never designed to protect the newbies. Peebles was an academic god. The others had become shy in the weeks since their last meeting. They looked back and forth waiting for the next person to speak. The silence was tense as if there was an uncomfortable potential in the room.

“Dean.” It was Rudy now. “We found amongst G’s papers some correspondence from your predecessor that invited G to help pick a post doc to review E’s works as he kept them. This was 1956.”

“Is this a problem?”

“We don’t know. But we want access to those reports.” Rudy’s request came without emotion.

“Oh. Well of course.” Peebles became slightly more anxious. “We hadn’t thought about that feature of Gödel’s life. Naturally what the Einstein group found would, perhaps, include Gödel’s influence on him.”

Sebastian and Marva started to talk simultaneously. She smiled. He continued.

“Dean, we are stuck. We have no agreement as to a common topic. I was hoping that the efforts of the Einstein team would help to guide us, if that is possible.” Sebastian wished he had more of an argument but his private desires he kept to himself. He had a fear that he couldn’t place. Between this fear and a secret, he was captured.

“Dean, we have three plus months left. The E-group found things we may not have access to. It might inspire us and unite us.” Rudy said and

while talking he looked around the room to see who might talk next.
“Maybe that’s everything.”

“Einstein’s death preceded my arrival here. Let me make a call.”

Peebles picked up his phone and dialed a number. In five seconds, he was asking for the one man who could release the files to the four. The Institute had an archivist, and he was the gate keeper for the files he jealously protected. The Archivist was also a talker. He loved the history of the stuff he guarded. The dean listened for a few minutes after he asked if they were available, said goodbye and hung up.

“Hmm. Very interesting.” He stood and walked around the room as if trying to understand what he’d heard. “The master curator told me a story about Einstein’s papers and the review the institute conducted. It wasn’t quite like this one. It was 25 years ago. The Institute asked Gödel to do the review and he chose a colleague to help him, someone who had been away for ten years or more. He had been one of the young mathematicians in the graduate program before he left on some hiatus and Kurt chose him to help. Anyway, the papers are available in the Archivist office. Good luck.”

“Professor, what was the mathematician’s name?” Rudy asked in such a curt voice Alicia’s attention peaked and she began to stand.

Peebles noticed the rising tensions. “He didn’t say. Maybe you’ll find out.”

Rudy was at the door and out before anyone else moved a muscle. The Archivist was in the library and the library was a quarter mile away. Rudy was not training for anything, sports were near, but he did not care enough to engage at any level. He was lean enough to look healthy

enough, but his reality was of a nerd who ate little and did almost nothing but think.

When he came face to face with the Archivist. He was shocked to see a gnomish fellow with a blackjack dealer's billed cap with the green shade. He looked over his glasses hidden below the visor directly into Rudy's eyes. His eyes were on grin and his mouth was on unfun as he asked, "How can I help you?"

Rudy was slightly out of breath. There were eight steps up from the long walkway leading into the heavy front doors. Normally, he would have had no problems except he had run the length of the walkway. By the time he stood at the archivist's counter, he was excited and winded.

Gasping for enough air to speak in a controlled manner, he managed, "Dean Peebles sent me to review a file you keep on the examination of Einstein's papers after his death. Gödel was one of two who were a team, I guess. The other I do not know." Finally, out of breath he stopped.

He waited while the librarian found the correct curator to help understand what the raving young man wanted.

By the time Edie Butler arrived at the front desk, Rudy had caught his breath and Alicia had caught up to him. His attention was split between them until Edie spoke.

"Edie Butler." She said as she extended her hand towards him. "I am the one who inherited Einstein's papers as they were curated originally. Can I help you?"

“Rudy.” He said pointing at his chest. “This is Alicia we are on a team at the Institute examining Gödel’s papers. We wish to examine Einstein’s papers, not all of them but just a report made by the team that examined Einstein’s papers during curation.”

“Ah, yes. The Archivist told me. I will fetch them and bring them to a viewing booth.” She pointed to their right and there was a series of open doors along a long hallway. “Find one and I will find you.”

Butler disappeared through the door behind the counter closing it after her to expose the sign in red, presumably a warning: Private No Admittance.

Rudy and Alicia walked to the nearest cubicle and sat at the table to wait for the papers to be retrieved.

“Darling, you left without me.” She sounded amused instead of irritated. “I bet you didn’t notice I followed you. I was two steps behind you until the stairs. Unlike you I decided to not be out of breath and took a minute outside the doors, so my heartbeat was nearing normal.”

“I lack strategy sometimes.” His breath was still uneven. “Too focused on goals. But think about it. We are about to find out what may prove to be the secret of a lifetime.” Rudy spoke rapidly and quickly ran out of breath.

“Sit-ups. More cardio.” She offered.

“Cardio?”

“Make your heartbeat faster for a period of time to strengthen the organ itself. Imagine going from the Institute to the Library at that speed and not being out of breath.”

“How do I do that?”

“Repeat what you just did until you can run both ways and want to do it again.”

“Why do that?”

“Some people say it improves sex. That interest you?”

“Sex does involve time travel of a sort.”

“Does that mean it is a part of your future?”

“Well, my interests lie in the future. Like you, I have lived by that dictum. Not now. Put it off until you are a doctor. Or if not then, then when everything is dandy.” He cringed quietly. ‘Cringed’ he thought. ‘I would flunk an exam on romantic love.’

Alicia was about to break into laughter as she realized his problem. But as she took an inbreath to talk, Archivist Butler arrived with a small banker’s box. Alicia pointed at the folders names and talked into Rudy’s ear. For the most part, they looked into each other’s eyes as was their habit. Their ears attuned to hear only one voice. Butler continued to talk but it was as if the other two were not in the room with her.

“Can you do that?” Butler insisted guessing they hadn’t heard a word.

“Yes, of course. This may only take a few minutes given that the papers are not numerous.” Alicia searched Edie’s face for signs she would trust them. After a few seconds Edie smiled.

She left.

“Is everything dandy?” Alicia giggled and touched his arm hoping to get some small piece of attention from him.

“Yes. And you?” He said without looking up. She noticed he was ignoring her.

“Going on super-dandy.” She added giggling even more.

“Super dandy has its advantages. But first. The matter at hand.” His grin was at maximum thinking this could go either way.

Alicia had a memory for instructions. Follow them to get to where you want to go without major repercussions. “Work on one file at a time. Put a post-it on it page by page and you’ll get a copy by noon tomorrow.”

“Post-it?” Rudy was distracted having pulled the first document from the banker’s box.

She held a packet of the yellow pads. “They are new. Probably an illusion. Helpful to our profession.”

“What profession?”

“Professionalism.”

“Here it is. The memo from G to E that describes a machine.”

“And here is the name. Dr Nelson Edward.”

“Wonder what happened to G’s copy? It wasn’t in the stuff I’ve seen.”

“Something appears to be awry.”

“Awry?”

“A problem that will baffle us.”

“I hate those.”

Certainty is in question.

The Path was the trail that cut across the meadow between the buildings that housed the IAS and the houses in which G and E lived. In this meadow and on this path, they discussed time. All summer and into winter, they walked while everything around them changed from sun to snow. The subject remained the same. When they passed into the future that awaits us all, the path disappeared into the grasses that grew there unless the Path was mowed, which it was for several years after E's passing. When the four were there the Path had all but disappeared from lack of use or grooming.

Alicia and Rudy liked the path as the spiritual part of their journey from students to masters as they joined the gods of the science and the philosophy of reality.

"Are we actually walking on the Path?" Alicia pulled on his arm. She loved waking so close to Rudy. He was important to her, and the future would make that importance double in size.

"Hard to say. I never saw it when it was in use by the geniuses but either way it is now."

"Maybe that is the point of saying change is an illusion." Alicia was holding his shoulder against her cheek. This is fun she was thinking. I have waited so long for the rest of life to begin. Now feels good to me.

"What are you saying?"

"We are human. Human is limited in perception and experience, senses if you wish, yet beyond confusion we feel, maybe intuit, another form of truth, one that is beyond reason beyond formalization. What does that mean?"

“We do not know how to see god. We do not know the universe. We cannot even see human. You have said similar things.” Rudy was enjoying her nearness. His hand was stroking her hair as she crunched into his shoulder uttering small squeaks he took as pleasure in the moment and she knew she never wanted to be anywhere else. She responded to his memory of her words.

“From a philosophical point of view, science is impure, at times, maybe not evil but at least not good. Too many examples exist of humans who do not understand themselves but use science to make claims about their version of a god. The inference I take from G’s incompleteness theorems and Einstein’s relativity is that we cannot knowingly say a true statement about ourselves, and more so we cannot say anything about a god that we can rightly claim is a true statement.”

Rudy had stopped stroking her hair while she talked. He began again as he started talking. “Sounds correct though there are many interpretations.” Then he stopped touching her. She felt him pull away thought he was trying to give her space to think and talk but she wanted his affection to help her see the bigger messages in her talk. She grabbed his hand and guided it to the hair on the back of her neck. He did not move it.

“Rudy, my love, I like the stroking.”

“OK. Here you go but keep talking.”

“The idea of an intuited truth comes from our experiences, some of them beyond sensual, other-worldly. My reading says G called it epiphany. He sought to open communications between this world and the one he inhabited.” Alicia began purring again. Rudy stopped again.

She said, “Don’t stop or I will.”

“OK. OK. But I have something for you.” He continued stroking her neck hairs.

“My take is that things are true even if we can never prove them true. Dangerous territory in philosophy. In logic G’s theorem has a meaning that opens the definition of truth beyond formalism. Logic was G’s central issue. If there is no logic, there is no truth that we can prove. We need logic to guard certainty. And yet we seek comfort from intuitive truths, beyond logic, never to be proven true in a formal sense.” Rudy started to pull his hand away as he talked and she guided it back.

As she moved his hand she said. “This says we humans rely on multiple methods of thought and proof. What we want to know is larger than ourselves and therefore beyond our senses and beyond our ability to know without help. Certainty eludes us once we extend our thoughts beyond our senses. What now?”

“There is the other world. There is the illusion of time. The illusion of change. In the other non-illusionary world things move about in surprising ways whether we experience it or not. Whether we sense the illusion or not. In the non-illusionary world, there is no change and no time.” Rudy wanted to end the talking. He wanted to go to their apartment and either take the affections seriously or make dinner.

“Sounds as if the illusionary world is a dream.” She said.

“God’s dream.” Rudy was certain of his logical footing. “Devise a ‘god’ who is timeless being eternal. Time cannot exist in god’s reality except as an illusion. God was not born. God cannot die. There is no in between, no timeline, no journey from start to finish. None of these things can happen really. Not to a god.”

“So, there is certainty.”

“It’s just not what you’d think.” Rudy smiled. “The motive for a god to ‘create’ a universe is for entertainment, to create time and change and the illusions that come with them are the entertainment.”

“Like a Disney film, a narrative in an animation.”

“A cartoon.”

“So that is god? A cartoon?”

“Or we are. It is hard to tell since the observed is as the observer observes. It is interactive.”

“This is the best god we can imagine?”

“Likely.”

“Others have tried. More than a few.”

“My guess is everybody gives it a try.”

They reached the car and raced home to continue their ‘communication.’

Sebastian and Marva.

The Path represented a sacred space for scientists. The walk on the Path was made first and continued famously by two great minds sharing their views of reality and perfection. G arrived in 1941 before the wars in Europe and Asia drew in the US. This was ten years after he wrote his first intellectually challenging theorem. E had been at the Institute for ten years prior. E's first theories were published in the first decade of the twentieth century. G's in the third. Both were in their early twenties when they changed how reality was perceived by the world's human population.

The first day of summer, Sebastian and Marva took their first walk along The Path together.

He had heard from Alicia how nice it was to walk and meditate along it. She talked about The Path as almost a living being and a large part of E and G's relationship.

They left the office talking about the effect G had on their work. Sebastian was bursting with his philosophy of the value of empiricism and the formalist's disdain for intuition. When they reached the start of the Path, they became silent as if a form of reverence had overcome them. Their silence lasted halfway across the meadow, when Marva broke it.

"Sebastian, I use intuition to interpret what I observe. Proof is something else." Sebastian must have been in a trance, lost in his own thoughts, because he started at the sound of her voice. Sebastian recovered from his silence and spoke in a soft voice as if he did not want to be overheard.

"Exactly. Truth is like a criminal. We can suspect without proof, but proof is required to convict."

“I like that. It takes conviction based upon proof. Me too. Suspicion is not enough. It might be truth, but there is a conviction that follows the fruitless search for proof we may not be able to prove or disprove an intuited thesis.” Marva was as quiet as he.

“Now, it may be unproven. Later is an open question. G’s theorems may not last. His notion of proof may fall into disfavor. We might prove every unproven theory later as we progress towards a formal view. I know this is difficult to accept but if you speak about human limits to observe or to understand what one observes I am with you but truth with a capital T requires an entire system of thought. In the search for a Quantum Physics and a Formalist Mathematics based on Logic the Truth may be found.” Sebastian was proud of himself for finding an agreeable way to disagree.

“Does this mean G might be wrong insofar as something that cannot be proven by absence of a proof NOW might be proven later or did he prove by example something that cannot be proven prima facie, or did he prove that there is a possibility that an unprovability exists?” Marva thought of herself as an eternal scientist because she never ceased asking questions.

“He is not wrong in his results. G answered Hilbert’s second question on the path to a formal system with a loud ‘No.’ The question was to write a proof of the completeness of the foundations of mathematics. The formalists were shocked and dismayed by G’s answer that no such proof of the completeness of Arithmetic is forthcoming using the logic that now exists.”

“Their reaction was revealing of biases by arguing against logic with rhetoric.” Marva said. “Irony, at least.”

They reached the University side of the meadow in silence. Sebastian reached for her hand. She looked uncertain. He saw that. He imagined that it meant she required more information.

“Marva, come home with me.”

“Oh.” She said. The look on her face was the same.

“What can I say?”

“Ah.” She looked into his eyes and saw his questions. “If I have to intuit your meaning, I think I love you would work. If that’s not the case, I guess, you like me. If I have to wonder about why we should be in a bedroom it might be because we want to touch in private.”

“Hmm. Life is complicated.” Sebastian smiled.

She saw him look defeated. “Ask me a question.”

“Will you come home with me so that we can touch each other in private?”

“Shall we call that Sebastian’s first question?”

“Second, actually.”

“Oh no. At least I am not Gödel. There is hope for you.” The look on her face changed to warmth and caring. Her mother had looked at her father with a similar sign of acceptance. “Sounds fun. Let’s go.”

Sebastian laughed as the tension left his face. “I am loving you or at least your mind. That counts?”

“Yes. Maybe we learn as we go.” Marva stopped to feel. “I know only good things about you. I intuit you are good by nature and I imagine we could be good together.”

“What’s left? Experiment?”

“Proof. Though your line is better. Shall we?”

“What?”

“Experiment.”

“Yes.”

The Path

The second meeting for planning the final reports they were to write was set for a too hot July day. It was cool but muggy in the office. The closeness drove Sebastian into an irritation that made Rudy desire a walk on The Path. He invited the others to join him and no one thought he was sane considering the heat except Alicia who had become particularly fond of discussions with him.

As the young couple reached the office door. Marva became agitated. "I thought we were going to talk about the end of project reports. Are you two going to leave it to us? Not a good idea."

Sebastian, sensing a need for his acerbic wit made an offer. "You are too complicated. We are too simple. Go on your way. We can get this done without you."

"Have at it wonder boy and don't forget that when Johnny finds out you have an ego his career will end. No more free beers for you." Alicia did not care what she sounded like.

Rudy reached for her hand and coaxed her out into the hall, beyond the feeble air-conditioning in 167. They reached the Institute's front doors where the Sun's glare was added to the rest of the day's tortures. A few seconds later that left the building to stand on the cement pad atop the stairs that would take them down to near continuous series of cement walkways all at near 85° F. They came to a stop and searched each other's eyes for information about the validity of their decision to flee the office.

"This almost hurts." She was from a small town in Kansas. There were hot days in Kansas but now she lived on Cape Cod. Her mother accused

her of forgetting her roots when she refused to go outside if it was below 60 or above 75 claiming she'd rather read. "This is closer to hell than Topeka in August."

"What's your problem?" His mind was whirling with regret at his silly idea about escaping the confinement of 167 in favor of the abuse his body was taking out here on an 80-degree day.

"The heat and the humidity."

They both laughed at her east coast joke. He was a Texan, so it was easy for him to laugh at east coasters having trouble with the Texas experience.

"We could go back."

"But he's"

"I know. He's insufferable but what is this?" she said waving her hands at the air and sky.

"OK. I am beginning to think that you are smarter than me."

"Maybe more mature. Smarter I am not so sure."

"Ok. I promise to be more patient."

They turned and reentered the building.

When they came back into the office Marva and Sebass were sitting very close to each other and of course they were surprised by the return of their colleagues.

"Wow. It's you." Was the best Sebass had to say.

"Hi." Marva said.

"Sorry." Was Rudy's addition.

Alicia was silent. She might have been embarrassed. No one cared. They broke into laughter. Rudy thought it was good they came back earlier than later.

Marva was philosophical. "Are we back on our agenda or is this just a mild form of the wild life?"

"The later." Said Rudy. "It is summertime."

Everyone laughed again as they resettled into their favorite chair around the table in front of the four black boards that held their working ideas.

As usual Alicia stood to chair the meeting. Sebastian demanded everyone get serious. Rudy smirked. Marva sweetly smiled in submission to the primacy of philosophy.

Café, Office, Bar

July had been too hot and muggy. Inside The Standing Wave at 5:30 it was warm and muggy. There was no escape. Rudy had an errand for a neighbor. He planned to excuse himself from the usual beer at The Standing Wave to meet his commitment, but the unpleasantness of the weather provided him too easy an alibi. As he sat in his car when the other three went in, he began to feel like procrastinating. The beer would be cold. Cold is good. It was a no brainer in his analysis. He parked and joined the others.

F sub 1 and F sub 2 were deep into the Big Question of QT's support for the notion of a universal consciousness. Their heads were inches apart as they tried to be heard over the evening's normal din.

M sub 1 and M sub 2 sat shoulder to shoulder watching the craziness grow around them. The humidity must have switched the revelers into hyperdrive.

For some unknown reason a semblance of quiet returned to the room making conversation possible. Rudy leaned to his right and talked towards Sebastian's ear.

"Sebass, I have wondered how you became so enamored with certainty. Is there something about uncertainty that makes you nervous?" He could see Sebastian getting nervous. He went on. "Any certainty we may experience could be from our intuition instead of a formal system. Why seek the system if that is not what will bring peace to your mind?"

"OK Rudy. Certainty is a goal. Have we achieved certainty? No. Will we? No. Frankly, until we met, I had the other view. You know, that Hilbert had the plan. If we followed, we would be in certainty, not just for now

but forever. Not just in mathematics but physics, chemistry and so forth.” He paused as the decibels of music and laughter increased.

They sat patiently expecting the next opportunities to converse. It gave them a chance to think. It was some time before Sebastian tried again.

“Damn it, Rudy. I keep trying to find the argument for Truth – with a capital T – to be dependent on the system. It seemed as if Hilbert could see it in his mind’s eye, but G put an end to it with his theorems. There it was, plain and simple, the project was doomed. Most poo pooed G saying he’s a charlatan. He is wrong and time ...” The din returned and M sub 2 stopped trying. From then on, they could trade a sentence or two before the din took over.

“G used logic to show that completeness was required and impossible for the entire system, parts yes, but not all.” Rudy said at the end of the applause for a long guitar riff.

“Which means we may be certain of some things, even many things, but all things? No.” Sebass said before the vocalist broke open the audiences mind causing rounds of crowd cheers.

“That’s the way life is anyway. That Mathematics and logic could provide more is flawed thinking. But the upside is that now we know and this, ironically, increases our certainty about the nature of life.” The band had stopped so the bassist could retune.

“You sound like Alicia.”

“That’s the point. None of us has the answer but together we have more than any one of us.” The band began their popular single that included a twenty-minute solo by Angus Young that stirred even Sebastian to rounds of shouting applause. Music won over mind.

Truth and Beauty

Alicia loved walking along the Path with Rudy. The morning sun warmed them as they approached the Institute.

“Truth and beauty. That is what we seek because with truth and beauty together we find the good in life and avoid the despair so rampant in our day. Just listen to the music, to the lyrics. It’s all there.” Alicia loved the way Platonism begins with powerful words that define a well-lived life.

Rudy was beginning to understand her foundations which in his mind were buried in her deep affection for her philosophy. “Johnny’s lyrics are that way. Sad, angry even suicidal but it’s their truth. As hard as it may be to feel it, punk is beautiful for its expression of those difficult-to-deal-with emotions.”

“All art is an expression of truth. Maybe art is the only expression of truth.”

“Or the obverse, all truthful expressions constitute Art. Art does not hate. Art is a form of Beauty. The philosophies that speak about Truth and Beauty are Platonist. Mathematics is Art not Science. Maybe that is why we should consider G an Artist.”

“I think of him so often I miss his presence. I imagine him walking with E. I see him in 167. Sitting at his desk, slumped over some new idea he has written on paper doing whatever he did to decide if his prose was adequate to his vision.”

“He was a bit twitchy. He had a difficult time in Europe in the 30’s. Bouts with depression. Persecutory delusions. Fear of food from fear of death. Then he dies of self-inflicted starvation.”

“Was that his Truth? Life is a personal suffering for the sake of his Art?”

“Artists suffer in devising their Beauty.”

“Like childbirth?”

“Don’t know much about childbirth. What I know about suffering is very limited. I see suffering from physical pain, and I guess I have a picture of psychological pain from what I have learned of G’s life.”

“I hope to experience childbirth someday.” She sighed the words. He missed any reference to himself while he was thinking how funny girls can be. He was in love, not pining to be a father. He had no thoughts about it at all.

Cyclic time

Rudy was mid-thought when Sebastian asked if he believed in the Bible. It was early in the morning. They were still enjoying their caffeine as Johnny hovered near them.

“My disbelief begins when I sense the purpose of a science is to prove the unscientific true. Take the Big Bang theory. Is it religion, theology or deduced from data gathered by observation i.e. science?” Rudy circled around these ideas as if he were a rabid animal circling a prey. He continued. “You know, Peebles is big into the theory. He is set to discover what he and his colleagues believe may prove the existence of a creator. That’s a rough translation but the way they talk reveals the pride of their ability to even entertain such a notion. Reminds me of that old testament story.” He stopped.

“Tower of Babel?” Sebastian filled in the missing item.

“Yeah. They would be like gods.”

Conversations over coffee were easier than over beer. The Wave was like a library in the morning and an NFL game after 3 PM classes.

“What difference? There is or is not a god. There is or is not a universe. The answers vary with the observer. Some say there is both a god and a universe making said god the creator of said universe.” Sebastian felt mildly uncomfortable talking about anything except Hilbert’s ideas.

“You do know that Mathematics takes no role in any so-called proof of the existence of any god.” He held tightly to the notion that the best mathematicians are agnostics. If G took away certainty, he would argue then a proof of the existence or non-existence of pretty much anything should be doubted.

“Some say that by observation there is an expanding universe begun in a moment and destined for extinction. God is the sole creator and

sustainer of the universe. People will believe anything.” Rudy was beyond agnosticism. He would entertain any idea about the nature of the universe he saw before him. No proof was needed and indeed no logic would satisfy.

“Brings up the time problem.” Sebastian listened well but took tangents. “Who can say that there is a god without saying that it is just their guess made without a better argument than Pascal’s Wager?”

“And Anselm’s arguments.”

“Ah?”

“God must be beyond imagining. No matter what if it can be thought of god can do it. According to Milne, ‘It requires a more powerful God to create an infinite universe than a finite universe; it requires a greater God to leave room for an infinity of opportunities for the play of evolution rather than a wind-up mechanism, once and for all and unchanging.’” Rudy sat back. He looked up over Sebastian’s head out into the trees that lined the street outside the Standing Wave. “We can now reply that Complex Consciousness is a valid and sufficient imagining, more than some pagan hating entity that is beyond sight. Complex Consciousness is the observable universe.”

“Oh. So therefore?”

“Well, science and theology are not on the same page. If they were it would be science leading theology. For a theologian that must be unacceptable since science is not going to remain the same. The Big Bang bust is an example. Means the theology must change to respond to changes in the science.”

“That sounds like a test.” Sebastian knew enough about rational arguments to know that in this realm no rational need exist.

“Given science must seek changes in its assessments of nature, of the universe or the universes then theology which is supposed to be unchanging belief is lost in the real world.” Rudy grinned.

“Therefore, becoming a cult which demands its believers not listen to others.” Sebastian said. “Wonder why a belief in something larger than yourself requires us to believe nonsense.”

“It doesn’t.” Rudy was ready for this. He took a deep breath. Sebastian grinned as he anticipated what he was about to hear. “Take Penrose’s idea that life is defined by consciousness and complexity creates consciousness or is a feature. I take it that we are as Alan Watts says god’s dreams. It is about entertainment. We are one of an infinite number of possible dreams and our purpose if one is needed is to scare the deity. The worse a human we are the more entertaining. Tragedy is a plus. Don’t think cruelty, think about a movie script that brings them to the theater. Literal nightmares.”

“Is that what Penrose thought? Or Watts?”

“You need a sense of humor to see the point because the life of a deity is seeking humor. Otherwise, the assumed deity is less than could be.” Rudy’s grin was a full faced smile.

“I get it. Anselm and Gödel’s proof of god’s existence.”

“Don’t forget Watts.”

“Why does he fascinate you?”

“He is theological, a Buddhist. He speaks from his experience that a deity is at least benign. G agrees. The human trait of judging each other mimics the Last Judgement. The so-called god is said to oversee judgement. Judgement sets up a fear that can control an individual in

the scheme of life that is totally imaginary, maybe even miserable, and therefore to the dreaming god entertaining.”

“So, the science of it is an attempt to define the nature of the larger being that we are a part of. I like that.”

Rudy wanted to smile. “Sebas, Einstein and Gödel say we have no choice because this is how human understanding is constructed. We are what we are and in seeking to know god we find we must know ourselves.”

“That’s Christian?”

“Two great commandments. It’s also Buddhist. Of the two I prefer Buddhist Watt’s ideas. There is no energy to be misused. You get it or you don’t.”

“Fair enough.”

“One more thing. A short part of a speech called "The Human Crisis" by Albert Camus. It was after world War II had left Europe destroyed and many people desperate. He said, ‘The fifth thing is to fully understand that this attitude means creating a universalism in which all people of good will can come together. To leave solitude behind we must speak. But we must always speak frankly and on all occasions never lie and always say everything we know to be true. But we can only speak a truth in a world in which it is defined and found in values shared by everyone. It isn’t Mr. Hitler who decides what’s true or false. Nobody in this world, now or ever, should have the right to decide that their own truth is good enough to impose on others. The freedom we must finally win is the freedom not to lie. Only then can we discover our reasons for living and for dying.’”

Gödel Universe

Through the window of their little apartment, the Sun was shining onto the couch they had placed as if the view was special. It was to them. It was the only sunshine their abode received. Whenever the day turned yellow and they were home, they sat there in each other's arms talking their favorite talk.

"How does it work? Time travel has a vehicle?" Alicia gently combed his hair, encouraging him to talk.

"We need a machine? Not exactly a vehicle. More like a cannon."

"What will it do?"

"The objective is to affect the future from the past. Not to go there, to the future, to live or something. The motive matters. Why go anywhere backwards or forwards?" Rudy was mystified by the motive of anyone who did things he would not.

"How could that matter?"

"We can do more damage than good. Size of effect may be inverse to the benefit of the effect."

"So, the greatest effect as in physical time travel may be the worst. Whereas the small and weak effects may be the best."

"Size v function is always a problem to consider. That is a distinction but the motives for time travel are all corrupt. It is greed, power, defeating randomness. We've talked about this."

"What did we conclude? There is no good motive. But that was not proof. What about a frivolous motive such as 'Let's see if we can do it?' What about that?"

“Why bother. Even if you knew the physics and the math and figured it what would be proven? Here I am. I send a bottle of beer two years into the future. I wait. It arrives. I drink it. I could have drunk it two years ago. I could have put it in a closet and forgot about it. When I found it, it would be the same thing. So why bother?”

“I see.” Alicia had heard this a few times, yet she thought that they had missed something in front of their faces. “Nothing matters in the future. We can change it by living out our time. It is not the same as planning to change the past in ones’ favor so the Now is enhanced with money or love or something, longer life because of a medical cure, maybe.”

“That is the value of cryogenics. It is not time travel into the future per se. More like leaving the beer in a closet for a few years.”

“So, absent a motive why the hell are we doing this thinking?”

“Must be the frivolity. Maybe we are not testing time travel as much as we are experimenting to understand the limits of awareness or the validity of the human belief that time and change are not imaginary.”

“It is not about time travel. It is about perception.” Alicia laughed for no reason except the potential that they had come to an important conclusion.

“It is not frivolous after all.”

Epiphany: Plato, Descartes and Husserl.

“I am a cosmologist not a philosopher. Philosophers appreciate cosmology more than physicists. I might be wrong.” Rudy did not believe he was wrong. Sometimes things came out of his mouth that surprised him. He hoped she missed it.

“You are.” She answered, and chagrin rose within him.

“I can defend my view.” He rushed to insert before she could continue. She gasped at his brash attitude then in a voice she felt reminiscent of her mother at her worst.

“Well guess what? So, can I. And as a plus I am not frivolous about it. It matters to me.” Alicia was a master of pauses. She too enjoyed them, and, in some way, she wanted them to end after just enough time to make them boring to watch but at its best it is a contest of wills and politeness to make them last. “What branch of thought leads the others?”

“Is that rhetorical?” Rudy smiled at her. He had been anxious since they started being romantic. His memory was full of his desires for her company. They were on uncertain ground in this argument. He wanted her to remain impressed with his mind forgetting she probably cared more about his heart.

They were sitting in the Standing Wave with Marva and Sebastian who were deep into their conversation about ontology, whether there was a god and if there was which of them would prove its existence first. All of them were sitting at the big table. The surface was littered with coffee cups and paper, mostly copies of G’s stuff.

It wouldn’t have mattered to either Rudy or Alicia if the world had been empty, except for them, or if the place was packed with screaming undergrads out to get drunk by noon.

M sub 1 would later describe these moments when F sub 2 would lock onto his eyes and suck his mind out through his pupils as if she was feeding herself with his ideas.

F sub 2 saw a source of intellectual nourishment in the person of the lover she had discovered sitting next to her in Peebles office less than nine months ago.

“Do you think falling in love is an epiphany? We see something in a new way, almost a miracle, beyond our expectations. Is this an Epiphany?” Her voice had changed back to the grateful lover who bathes in acceptance and the special feelings intimacy brings.

“Maybe but first is the definition and then a list of how epiphanies happen and then your question.”

“OK, wise guy. Let'er rip.” Alicia came from a farming family from Kansas who began a real estate firm on Cape Cod near New Bedford. Rather than study business or law she was drawn to debate. Her high school years taught her that politics or science made her feel too uncomfortable to argue. She mentally wandered around her freshman year at Princeton looking for her niche. History, theology, a course in metamathematics, she discovered Pythagoras and Plato in a classical Greek class. She was stuck in philosophy.

“I gotcha. G had a problem that was entirely his own.” Rudy talked with his hands when he was describing a galaxy or a universe. Not that morning. He was holding on to his mocha swishing the last third around in his cup to mix the chocolate and coffee back together. He watched the surface of his drink swirl around as he thought of his argument. “He was panned for his theorems. Given his odd personal reaction to reality or experience including his paranoia, he must have been confused about how people were treating him. Then the Nazis. Then Einstein

who wasn't particularly kind but kind enough to G that they stayed friends."

"Do you want me to stipulate that the above is true? If so, I do." She wanted to hug him and fall onto the floor in a mad embrace that would befuddle him. Then she could control him if for even a few moments. She recovered her present tense to hear him mid-sentence.

"... been on the path. With everything that was inexplicable he had clung to philosophy, and he found the phenomenologists and Husserl's notion of Epiphany which differed from the Christian notions such as the Catholic liturgical holiday called by the same name." He saw her laboring to hear him. He paused hoping she would talk. She just stared at him. "Maybe you are having one now."

"Or maybe you need one too."

"I'm thinking we should go to work." Rudy suffered from extreme blushing while she roared in laughter and could barely snort out:

"Or?"

"All the alternatives would shock the others."

"Others?"

"Yup. Falling in love is an Epiphany."

"Didn't I say that? I meant to." She smiled a smile he would remember. "To 167 we go, tra la."

As they walked to his car her thoughts went back to a philosophy class so intense, she remembered huge section of her notes.

"In the third century, Plotinus recast Plato's system, establishing Neoplatonism, in which Middle Platonism was fused with mysticism. At the summit of existence stands the One or the Good, as the source of

all things. It generates from itself, as if from the reflection of its own being, reason, the nous, - wherein is contained the infinite store of ideas. The world-soul, the copy of the nous, is generated by and contained in it, as the nous is in the One, and, by informing matter, in itself nonexistent, it constitutes bodies whose existence is contained in the world-soul. Nature therefore is a whole, endowed with life and soul. Soul, being chained to matter, longs to escape from the bondage of the body and return to its original source. In virtue and philosophical thought, it has the power to elevate itself above the reason into a state of ecstasy, where it can behold, or ascend to, that one good primary Being whom reason cannot know. To attain this union with the Good, or God, is the true function of human beings.

“Even though Socrates speaks of erotic mania as the best and of ritual mania as a weakness of the soul, in the Phaedrus he speaks of benefits given through each form of divinely influenced mania, saying that the ‘greatest of blessings come to us through madness, when it is sent as a gift of the gods.’ Socrates and Phaedrus agree that the Greeks have benefited from the ritual mania inspired by Dionysus, which consists in using prayer, song, dance, cathartic purification, and sacrifice to evoke the arrival of the deity. Socrates speaks about how divinatory and ritual mania have worked together for the people, with the oracles divining and prescribing the proper rituals to perform in order to invoke a deity to help cure somebody of a disease and bring them back to a sensible state of mind.”

Epiphany over coffee in the Wave

“OK. Let’s begin, as I suggested some time ago, by making a list of possibilities for the ways G sought to create an epiphany for himself and I suppose we might also list the conditions that were forced upon him that also might explain any epiphany he might have experienced.” Rudy spoke slowly trying to avoid confusion. Alicia was ready for him.

“Sounds basic. I read an article years ago in Psychology Today. The title escapes me but a breakthrough in thinking was the focus. How do these events happen? That was the point of the article. They saw these breakthroughs as almost psychedelic experiences akin to an ecstasy that adherents of spiritual disciplines or meditation practices, and followers of religious frameworks experience.” Alicia was certain of her experiences. She had never had an Epiphany. She was sure G must have had one if Einstein had two.

“Meditation doesn’t sound like G.”

“No? OK. There are nonmental means of describing that ecstasy.”

“Like ...”

“Fasting or other depravations as in sleep deprivation among others.” Alicia was enjoying having something Rudy wanted.

“Drugs?” Rudy was getting into the mood for thinking beyond the boxes information came in. “I heard he may have tried LSD after E’s passing.”

“Yup. And other things like illnesses or too much excitement.” She was alive with excitement. “You know we get a feeling of time lapses from a momentary recollection of the past events in our mind. As in it feels like only yesterday.

“The first might fit with G but excitement.” Rudy shook his head slowly. Whatever an objective observer might have thought, she had a different take.

“I can see you thinking about sex. Maybe when he first met his wife. She was a cabaret dancer. They were young. Would it not be funny if she was the cause of his incompleteness theorems?” They both chuckled at the thought.

She was not done. “No, we can’t take time for that now. Why are you so predictable?”

“It’s a pretty day. You are pretty, too.”

“Men.”

“What would you know about it?”

“Stuff.”

“What else is left?” Rudy was not happy. “I mean about epiphany.”

“Insanity.”

“If not sex then insanity?”

“Maybe, if you are working towards an epiphany. When we first talked, I considered that perhaps insanity generated G’s theorems. The timing may be off, but it is worth considering.”

Rudy listened intently to her. Like most young men caught in the celibacy of academia, he watched the wrong cues in a discussion. He was distracted by a sidelong glance that spoke intrigue and secret meetings to him while she was checking to see if he had fallen asleep or not.

When he was done thinking he said. “In my imagination I saw him trying to have an epiphany so there may have been some intentionality

in things like his starving himself to death rather than simply the result of extreme paranoia with Persecutory Delusions and fear of death if that is how his end is explained.” She gazed at him as he described his “G” to her.

“What a strange ending for such a brilliant mind as if for the sake of science someone might build a machine and travel through time. Just after E’s death Damon Knight published a book called Extempore about a New York dishwasher who learns to travel through time. Once he started, he continues at an accelerated pace, continuing until the end of time and then starting over.”

“How did the book end?”

“Haven’t finished it yet but I bet not well from the sound of it.” Alicia shook her head. “Maybe when we are done with this project, I can pick it up again. What I was getting at was the danger we put ourselves in to engage in the kind of thinking we do to satisfy our odd curiosities.”

A traveler intercepts the four in the bar.

They sat where they always sat. It was Friday evening. They were tired from the constant study and discussion. They had a month to go before the term ended along with their jobs. The deep sadness of parting was still in the future.

Johnny had just brought them their beers. They exchanged hellos. As Johnny fled into the Friday night crowd, a male 30 something emerged out of the knot of people.

He appeared to be in his cups as Rudy's mother would have described him. He walked directly towards them. There was no other destination. The round table or nothing.

Rudy expected he was lost and needed help to get to the bathroom. Instead he pulled up a chair and joined them.

"I am here at last."

"Welcome." Alicia said.

The stranger sat and said nothing. He sipped his drink and looked from one to the other of his tablemates.

He was quiet. The others accepted this change in their environment until it was as if he were not there. They launched back into their conversation.

"OK. M sub 1, what is so important about some note you discovered that referenced a machine to defeat time?" Sebastian had been acting weird in recent days. He was ever more confrontational. "Since M is not answering how about F sub 2."

Alicia knew not to push back. M sub 2 had issues and she did not want to go into a weekend with an open emotional wound needing healing. She did reply.

“Sebastian, nothing is as important as friendship. Who needs time travel, especially if it would make you happier if no one spent any energy contemplating it. I, for one, give up.”

“Nah, not me.” Rudy was adamant. “I want to find the drawings that are referenced. I can’t believe we missed them.” As he spoke, he drained his beer and stood.

“Time to go.” The rest made moves, except for Sebastian who injured in conversation yet once again he sat rolling his beer glass between his palms.

“I stay.” He waved his hand towards the stranger. “Not good manners to abandon a guest.”

Rudy, Marva and Alicia walked to his car. It was still light when they left The Standing Wave. Alicia and Rudy walked holding hands.

Everyone was quiet except for good nights when Marva left the car for her front door. As soon as the door closed Alicia began to talk.

“Who was that guy? I’ve seen him before.”

“Yeah. He looks familiar. Wonder what he wanted.” Rudy started the car.

“Think we’ll see him again?”

“Wonder what Sebastian is up to. He is getting evermore tense. Hope he’s OK.”

Neither had another word to say until their nightly ritual of bedtime. Neither had any problem falling to sleep.

The case for insanity

As Rudy and Alicia headed to the Eagles Stadium for a ballgame Rudy had been wondering how G's well-known bouts with insanity of various descriptions might have affected his theorems.

"Maybe he had an epiphany caused by his insanity."

"Was it before or after he wrote the theorems?"

"Point taken. I will check out the dates, but I do know he wished for one to help him explain his views on the existence of time."

"What was his history with these bouts?"

"Well, he finished the theorems that bug poor Sebass in 1932. After that he had a bout. In 1936 when the Germans were under Nazism Moritz Schlick noted as objectivist philosopher was killed by one of his deranged students from the Vienna Circle."

"Logical positivists were a thing. That drew some of the most intelligent and deranged individuals into the same room. But pre-WWII was deranged as it was so who knows. That's when he came to the States?"

"Soon after he recovered from that last bout, he lost his position and left."

"Doesn't seem related. He did come up with his time travel theorems and the one about the existence of a god after that."

"Maybe there's nothing to it."

"Might need more research. Traffics difficult ahead let's be sane and let you concentrate on the deranged Phillie fans."

No one likes to be out of sorts. Waking up in a football stadium trying to make it to the fourth quarter but losing touch still out of sorts.

“What happened.”

“You slept through the third. So, nothing. You woke up when the referee called back an Eagle touchdown. The booing was vicious.”

“Oh. I was dreaming about trying to fall asleep when my dreams became nightmares and here I am.”

“You have proven you are bored by football.”

“Your team is going to the Super Bowl. How can it be boring?”

“Easy. Sometimes nothing happens, a warm beer and a soft shoulder and sleep invades you until startled awake you see it as if for the first time.”

“Ow. You are headed to a bad place with this.”

“Really?”

“Football is called a past time.”

“Maybe, for others it is napping.”

“Funny you are.”

“Thank you, Obi Wan.”

The Papers

The blackboards were full. Some covered entirely with mathematical and physical symbols. One had words in several languages surrounded by a box and connected by arrows in multicolored chalk.

Alicia's was the wordy one:

The objective is to derive a world where we understand and accept our limitations as knowers: what we can know is vast, and itself, of unknowable size. What we do not know is the comfort in logic.

There are proofs of the existence of an amount the name of which is infinity. The more we assert that the universe is a creation and that mathematics may describe it, the more we come into a conflict of the idea of infinity with our limited thinking ability.

No matter who we are or think we are human limitations can be enhanced with mechanical means but even then, for every unfathomable idea there is a knower who but for the lack of an epiphany could explain it to everyone who wanted to know.

Gödel knew more than a few of those unfathomable ideas.

Are we to defend our ideas or expand our ideas to include all truths?

She wrote her name as 'F sub 2' on a form the Institute required her to complete in order to issue her monthly stipend that she received as a member of the Gödel Team. She considered what she had done in rebelling against the normal way things were to be done.

Her rebellion began on the first day when Dean Peebles renamed them as numbers or some digital code instead of honoring their larger history such as the cultural or ethnic contexts they existed in. She gave up anger after she realized that her reaction was part of her philosophical upbringing which had led her to accept that she sought peace, freedom and justice. Her best friend in undergrad said she had the Superman Complex.

She didn't care what it was called she wanted to solve the biggest problem of her time. Then she laughed having caught herself punning about her plight.

As her mind roared on in its revolutionary mode she settled on her name, crossed out F sub 2 and wrote what the administrator preferred. With a nearly silent harrumph she placed her timecard in the tray just as Rudy said, "You sound frustrated. Can I help?"

She stood still staring out the only window in the office. Her thoughts rambled through the possible responses ignoring most, avoiding a few and landing on "Oh, my god. I need a rest, but when and where is it to be."

When she looked back at him, she would notice that she was about two months into her pregnancy. The changes she had undergone were still subtle but real enough to make her moods unlike those she had learned to control. At the time she was, as she said, busy and now tired. The bottom line was she was unaware of how her body had changed. She smiled her Mona Lisa smile and shined her eyes into his. He melted.

Rudy knew he was quickly becoming attached to her. She had no idea how powerful her eyes could be.

Sebastian's Folly- the last meeting

Rudy was standing in room 167 talking in a voice none of them had heard before. "I found a handwritten note from E to G saying he would think about G's machine. It was among the discussions of time. It is the only mention of a machine I've found."

"What do you want" Sebastian's voice matched Rudy's in intensity.

"Nothing. I was hoping for a little time machine talk. I read mention of Zeitreise."

Sebastian responded in a superior voice which he thought would help him quiet Rudy. "Sounds like it was a misinterpretation. In German, Zeitmaschine means time machine." Rudy wanted to have his way, but stuff needed to happen first. He yielded to Alicia.

"So, let me get this straight." Alicia stood at the black board named 'Devil's Advocate.' She was talking to Sebastian. He was sitting at the table looking hopefully at her. "Your idea is to experiment, follow G's and E's analysis and prove something about time travel. If I remember correctly, the idea is to test the notion of change. Is it an illusion, as E said, or is it real? Indeed, the point would be to prove whether or not G is correct that time does not exist?"

It was a few days before they would part after spending a year together in room 167. Sebastian had hung on throughout despite his own reluctance to accept his role as the blessed fool. He had struggled.

"That's it. The experiment should demonstrate that time travel is possible going forward because we can examine the result. Maybe G's cyclic universe exists, and we can travel backward but if we cannot examine the result from trying then why try it?" As he talked his

animation increased. He was waving his hands and then he stood to walk to the board to finish his thoughts. "I found a paper, more like a letter, a set of letters between G and E. One is a schematic of a machine G thought would produce forward time travel."

There was a gasp from the three others.

Marva was shocked to hear Sebastian's announcement. Her voice was strained with disbelief. "You found what? A time machine? In the piles? When?"

"Months ago. I admit I've kept it from you. I saw the idea as wrong but now I changed my mind."

"Change is an illusion." Marva inserted between his words.

"Now I think we need to look at the question in a logical way."

"My logic says you are an a-hole and not worth my time." Marva stood and walked away from the table as far as she could without leaving the room.

Rudy knew better than to join F sub 1 in her condemnation of M sub 2. Their argument was personal. "Sebastian," He said. "Can I have a copy?"

Sebastian turned his eyes to him. "I am not a total a-hole even if Marva thinks so. I would apologize. I could explain. But why waste time we don't have." As he talked, he pulled three copies of the papers he kept secret and passed one to M sub 1 and F sub 2. Another copy he put on the table where F sub 1 had been sitting.

"Sorry." He said at last.

Alicia chuckled quietly. No one noticed. She saw the tension as the same as the tensions they had experienced for months. There was silence in the room. She felt compelled to fill it.

“Sebastian, I have no trouble with what you have done. You read those papers, no?”

“Yes.”

“Good. What did you learn about G’s thinking and his work from the papers?”

“Nothing. I saw what they were but could not read the words for fear of agreeing. I cannot be a judge of it at all, except to say they deserve to be read by you, and I fear what will come of it.”

“I thought you said you changed.”

“I still have fears.”

Sebastian and Marva

When Rudy and Alicia left, Marva and Sebass were alone in 167. Sebastian tried to rub her shoulders. She resisted.

“You know I respect you. I just don’t feel the way you do.” Marva had never really thought of herself as someone’s lover. In her autobiographical piece she mentioned her relationship with Sebastian. She opined about her lack of self-awareness. She used maturity or her lack of it to describe her reticence to mate with him. Her mind ruled and for whatever reason her body would lag behind. “I have a contribution to make to Quantum Physics. I must make it now or I will lose myself in hormones and write bad novel’s in my sixties having nothing to say that matters.”

Sebastian wore the saddest face he could make. “I am losing it, Marva.”

“You could be happy by staying at the Institute. I am moving west where the action is for me.” Marva had never dated Sebass after the first few times had left her distrusting his social instincts. He was combative and could not change his mood which now was locked into self-disgust.

“This is the last time we will see each other. You are leaving this afternoon. Right?”

“Yes.”

“Then...”

“What? Look. I care what happens to you. Someone might say: Get a life. That is cruel to say but the sentiment is the same. You need to abandon whatever is holding you back and forge ahead. Write a paper.

Parting

Room 167 at the Institute for Advanced Studies never looked so clean and orderly, at least not since World War II when Gödel arrived at the institute.

Now, nearly three years after his death all of Gödel's materials had been removed. In the first week of January 1981 the curator announced that the job was complete. A week later Peebles announced the project was over. The M's and the F's sighed deeply. They had submitted their last reports which they determined for themselves based on their own disciplines.

M sub 2 was the only one who was not happy. He had never recovered from the humiliation of hiding the papers he must have known M sub 1 wanted so badly.

The table and the blackboards were gone. In fact, every trace of the four had been removed. Now they had no reason to be there. They spun slowly around looking at the emptiness they created. No one had anything to say.

After they filed out one by one under the watchful eyes of the curator and the dean, they wandered together to the foot of the Path now once again un-traversable without skis or snowshoes.

They shook hands, exchanged hugs and wishes of good luck. Marva waited for the bus. Sebastian walked off in the general direction of his home. Rudy and Alicia walked to his car and drove to theirs. Just short of twelve months what had been an adventure in Gödel space was over.

Post Parting

Rudy sat at the usual table in the Standing Wave. Johnny sat next to him. Rudy was drinking a mocha with whipped cream. It was 9 am and they were alone. The University was on Winter Break. With the project over Marva, Sebastian and Alicia were gone as were most every other student and grad student.

Neither man spoke. They sat and contemplated the peace.

Johnny was in the middle of some lyric about how we are all alone most of the time and maybe we like it more than hanging out with a bunch of sketchy humans.

Rudy was waiting for the caffeine to kick in to raise his spirits enough to not imply self-hate to whomever might be watching him sit with a gloomy look.

Rudy was in shock this being the first morning after the end of the project. He was free for the first time in a year. He didn't know how to feel about that. Alicia had left last night after announcing that she was pregnant and headed back to Massachusetts, her family home and a job in her father's Real Estate firm. PhDs in philosophy are difficult to place in a capitalist corporatist world. She was lucky to have a home to go to.

"What are you going to do?" She asked.

"Stay here. Find something to entertain me. I don't need a job yet. The Institute may hire me for some intellectual labor otherwise I am on my own for maybe a year." He talked in a slow and low voice. His Texas accent had been tempered by the clipped and faster Eastern accents. He felt confused. He caught it while he was watching Alicia pack. She

had more on her mind than he did. He wasn't moving. He wasn't pregnant. He didn't want a job. Maybe he'd think about it all tomorrow.

She was aware of his reluctance to follow her to New England. She laughed at him that he didn't like change. He said he didn't believe in illusions.

Alicia had told him she would have the child and remember him to her if that was how things worked out. He said he would be busy for a year or so and maybe they'd run into each other somewhere.

Rudy didn't know much about how Earth's societies worked. He was once told his head was in the clouds. He said that to Alicia. She said he was a few light years farther away than that. She said he should think of New Bedford as his home too if he wondered how she felt about him.

Johnny had little to do with the students and faculty on break. He sat next to Rudy with a cup of the herbal tea he liked to use as a curative for his late-night festivities. He never sipped the tea. He held it tightly in his hands. Feeling the warmth transfer into his bones. As they sat quietly both brains were spinning with the usual set of ideas each loved to consider.

"Oh!" Johnny said.

"What?"

"Just remembered something."

"What?"

"Some guy came looking for you yesterday evening. 30ish. Professor. He asked me if I knew the people who sat at the big table every night. I said maybe. He said he wanted to hire one of you to work on time travel together. Said he sat in on one of your conversations. He

mentioned Sebastian. Said he told him about you. He said M sub 1, whatever that means.”

“He means me.”

“M sub 1. What does that mean?”

“Male number 1. Sebastian is M sub 2. Alicia is F, for female, sub 2. Marva F sub 1.”

“It’s a Princeton thing?”

“Maybe. Has to do with a mathematician’s notation. It’s like music notations. You know, symbols that say more than seems intended. It was our boss’ way of being funny.”

“This guy cared about that.”

“Johnny, that part of my life is over.” Rudy suddenly began to smile as if he knew what he said meant that his life could begin again free of all the struggle and drama. “Thanks for the story. I will look into it.”

Someone came in and announced he was a part of eleven who were about to descend into the Wave. Johnny took his leave abandoning his teacup on the table and leaving Rudy to check his watch, sigh and depart into the New Jersey January day.

The interlude and the second meeting

Almost a year passed since the parting. It was snowing but the winter had been mild. The gloom of its depths was still ahead.

Rudy had become ever more reclusive, spending his time outside his professional teaching job studying the theological and philosophical ramifications of time travel. His small apartment in Princeton was now resembling Gödel's office as he saw it when he first entered it two years ago. His desktop held the works he was immediately fixated upon. He rarely searched the piles around him and always kept the emotionally meaningful ones nearby. These books and copies of lectures by cosmological philosophers he would touch on occasion as if he could by feeling them understand their intended meaning more fully.

Under these conditions he often found the mail brought 'news from the front' as he referred to the status of the current debate regarding Gödel's work. He went to the mailbox as soon as he arrived home or on Saturday as soon as he heard the box screech as it yielded to the mailman's yank. Waving thank you to the mailman's back he leapt to the mail of the day. Today did not disappoint. The box contained a letter. The handwritten return address declared that the sender was Love and Goodness and the return address was The Creation, or so it said.

"Ah, Alicia." He said to the letter as he pulled it open. The ticket inside was for an Institute sponsored Dr. James Peebles' lecture called Life on Other Planets, Theology and Philosophy. "This is for tonight. Four hours. Surprised I missed seeing ads for it."

His day passed slowly, he left early, arriving in the first five attendees. He bought the new book by Peebles at the table in the lobby and found his seat. Lost in reading Peebles' latest he missed that Alicia came and sat next to him. She did not interrupt his thinking, studying the program instead, content just to feel his familiar energy next to her. The lecture began. Her attention was lost to the discussion Peebles was delivering to his audience.

Peebles' lecture: Change is an illusion. Einstein's epiphanies

Peebles entered the room without introduction. He turned on the lectern light and organized his notes. He tapped the mike which annoyed Rudy so that he looked up to see his one-time mentor preparing to speak. Someone lowered the audience lights and the scientist who brought the Big Bang Theory to the world was ready to begin.

“Change is an illusion.”

“The means I have of making a change in myself is to change my illusions. The universe, festers in a state of uncertainty and snaps into clear, actual being when observed by a conscious being — that is, us.

“We are participators in bringing into being not only the near and now but the far away and long ago. Only through the acts of conscious minds does the Universe truly exist at all.

“In the era after the uses of the atomic bomb, the scientific community reformed itself to include a notion of peaceful use. It was as if science had birthed a new future for us all. The humans would need individual epiphanies to grasp the power of this change.

“Gödel chose to have his work reviewed by post doc students, his age when he wrote his famous theorems. The reason Gödel wanted young students to review his work is so that they might achieve some epiphany.

“A contemporary example of an epiphany in education might involve the process by which a student arrives at some form of new insight or clarifying thought. Despite this popular image, epiphany is the result of significant work on the part of the discoverer and is only the satisfying

result of a long process. The surprising and fulfilling feeling of epiphany is so surprising because one cannot predict when one's labor will bear fruit, and our subconscious can play a significant part in delivering the solution; and is fulfilling because it is a reward for a long period of effort.

“This idea came to mean more to Gödel after Einstein’s death.

“They must have discussed it while waking The Path. For example, allegedly Albert Einstein was struck as a young child by being given a compass and realizing that some unseen force in space was making it move. Another, perhaps better, example from Einstein's life occurred in 1905 after he had spent an evening unsuccessfully trying to reconcile Newtonian physics and Maxwell's equations. While taking a streetcar home, he looked behind him at the receding clocktower in Bern and realized that if the car sped up close to the speed of light, he would see the clock slow down; with this thought, he later remarked, "a storm broke loose in my mind," which would allow him to understand special relativity. Einstein had a second epiphany two years later in 1907 which he called "the happiest thought of my life" when he imagined an elevator falling, and realized that a passenger would not be able to tell the difference between the weightlessness of falling, and the weightlessness of space - a thought which allowed him to generalize his theory of relativity to include gravity as a curvature in spacetime.

“When Gödel and another colleague went to Einstein’s office at the institute to deal with Einstein’s papers, they found the blackboard covered with dead-end equations.

“This is the territory that demonstrates a desire for epiphany.

“It is possible these two rather spent intellectuals needed a new idea to renew what must have been the rush they felt in their 20’s when they

each in their time made the scientific and logical breakthroughs for which they became known.”

Rudy and Alicia each imagined that what Gödel sought in an Epiphany was described by Husserl. Their thoughts ranged around for a few seconds until Peebles’ voice brought them back.

“Gödel wrote his work on time travel in 1949. This introduced cyclic time through a unique solution to Einstein’s Field Equations that defined General Relativity.

“A logical attempt at a proof of God’s existence was written in 1970 and it reminds me of a sacral text: it has no introduction, no motivation, and no explication of the modal system used; just axioms, definitions, and the proof. It is an ontological proof, based on Anselm principle, but Gödel does not refer to St. Anselm, or to other philosophers and theologians.

“Anselm finds the concept, that a human can only imagine so much and no more or even the notion of no more, is too much. Since humans have this limit there must be a god that can imagine more. Seems like an argument from necessity that underlies cultist thought.

“Gödel said,

‘...there exists today the beginning of a science which claims to possess a systematic method for such a clarification in meaning, and that is the phenomenology founded by Husserl. Here clarification of meaning consists in focusing more sharply on the concepts concerned by directing our attention in a certain way, namely, onto our own acts in the use of these concepts, onto our powers in carrying out our acts, etc.

But one must keep in mind that this phenomenology is not a science in the same sense as other sciences.

Rather it is (or in any case should be) a procedure or technique that should produce in us a new state of consciousness in which we describe in detail the basic concepts we use in our thought or grasp other basic concepts hitherto unknown to us. I believe there is no reason at all to reject such a procedure at the outset as hopeless...not only is there no reason for the rejection (of phenomenology), but on the contrary one can present reasons in its favor.'

"In a 'natural' mode of understanding, sense-perception in correspondence with the material realm constitutes the known reality, and understanding is premised on the accuracy of the perception and the objective knowability of what is called the 'real world'.

"Phenomenological understanding strives to be rigorously 'presuppositionless' by means of what Husserl calls 'phenomenological reduction'.

"This reduction is not conditioned but rather transcendental: in Husserl's terms, pure consciousness of absolute Being.

"In Husserl's work, consciousness of any given thing calls for discerning its meaning as an 'intentional object'.

"Such an object does not simply strike the senses, to be interpreted or misinterpreted by mental reason; it has already been selected and grasped, grasping being an etymological connotation, of percipere, the root of 'perceive.'"

In the depths of his mind Rudy grasped what his mentor and professor was saying. In an article he wrote on the subject he likened his sensation to his mind turning inside out. He never could talk about the

context or the result he perceived for fear of giving away the secret he struggled to keep.

After the Peebles lecture

The Q and A ended nearly two hours after the presentation began.

Alicia watched as Rudy rose to leave the auditorium. He stood facing away from her and was halfway to the lobby when she touched his arm from behind. He was lost in his thoughts. He ignored the touch and kept walking without looking back. She followed him for two steps, then sped up to circle in front of him. He looked up from his shoes when he saw hers, stopping at her face as it came into view.

He said nothing. She watched his face. His eyes were moving as if he was watching a ping pong match. Alicia had watched her older brothers trying to best one another at the game. She had attended classes in phenomenology at Boston College hoping she would understand nature in a different way. Part of the course work involved intentional attempts to modify consciousness. She had watched films. She'd seen these eyes before.

He was having an epiphany.

Rudy stood in front of her, looking over her left shoulder. Her hands held his arms at the elbows. Alicia was smaller than Rudy, but he yielded to her touch. The remaining attendees flowed around them on their way to the lobby.

He slowly regained his present tense. His eyes stopped circling the room. Her eyes were fixed on his when he finally fully arrived.

“Oh.” He said. “It’s you.”

M sub 1 and F sub 2 walked to the bus having just re-met.

Rudy had recovered as he was walking towards the exit. They were holding each other’s arms keeping as close as they could and still

navigate. It was late. It was Indian Summer. It was Princeton. They went to The Standing Wave.

Johnny recognized them and watched them move through the small crowd to the table they had gravitated towards when he first saw them two years ago.

He walked towards them. "Rudy, Alicia. How are you. Sit I'll bring beers." And off he went. They sat.

"Tell me. What were you thinking as you left the lecture?"

"He said somethings that opened my mind. Going forward works. When one goes forward in a small way it is as if everyone else visits the past. Then I saw it, G's drawing, in a new way and it began to make sense."

"OK. I am sure that was what I saw on your face." She wanted to talk with him. That's why she invited him. She chose the best bait to draw him without intending this consequence. She was hoping for romance.

He watched her face move from unsure to neutral. He wondered what he was missing. As he reached up to touch her face, he hoped Johnny would be slow with the beer.

Sometimes people experience a suspension of time passing. Other experiences include the acceleration of the passage. Kissing is one such event. The drugs that love sends into one's bloodstream fogs the mind.

The Memory may not record time passage very well. Most memories exist without a time stamp of any kind. If two events happen near each other in time the memory cannot be trusted to determine which happened first.

"That was a trip. I thought I was travelling forward at a great speed. The future was a blur."

"I knew it. Kurt would have been jealous."

“Ah, you think it was an epiphany?” He looked to her to tell him.

“If not, then what?”

She had chosen philosophy because it was closest to what she wanted to master which was herself in the context of the larger world, made up, as she believed, of a sea of ideas flowing before her to be examined and accepted or rejected as needed.

“Overwhelmed by information.”

“Such as?”

“Seeing your name on the envelope holding the ticket to be here.”

“Love and Goodness. You did not forget. I hoped ... I’ve missed you. You are here. That is proof of something.”

“Where is Grace?”

“She is with my mother. She is almost six months old now.”

The experiment to test the illusion of change

Rudy, sitting at the dinner table in his apartment, was staring past Alicia and out the window at the gray skies as the color deepened to the moonlit black of night. She was looking at him wondering how their few days together again would affect him. They had spent them walking around Princeton with the appropriate stops at the Standing Wave and slow strolls along the path. They talked about Grace and how she needed a father. Rudy wasn't sure, so they talked about the dreams they had for a future alone or together. When Monday came, she went to work and returned in the evening. They ate a small pizza and then as he finished his beer, he put the glass down very slowly and shifted into a meditation. She watched him sit there for ten minutes.

"Are you broken?" She asked. He did not move a muscle at the sound of her voice, but she detected a rising awareness of her presence in a look that crossed his face like a cloud lifting.

"No." He said almost without moving his lips.

"Are you sitting here before me?"

"Oh."

"Rudy dear come nearer to the present tense and be with me now." She had taken an interest in hypnosis. She studied the faces of people in concentration, or meditation such as he was caught up in. His eyes opened but had yet to look at her.

"I can see it."

"What?"

“A big space with thousands of people. No one knows. No one sees. A change happens in the center of their attention, yet no one believes it happened. It never enters their memories.”

“Ah. What happened?”

“What they missed was an object disappearing before their eyes.”

“Proves humans understand that change is an illusion?”

“Yeah, that, and more. Time travel.” He was fully alert now. He had turned to her and began to lift his hands.

“Is that your dream? To prove time travel can happen? With G’s machine?”

“Guess so. That might work. Want to help make it happen?”

“Who wouldn’t?”

“Marva and Sebastian?”

“Maybe or maybe not.”

“Where are they? Do you know?”

“Marva is in California working at a lab.”

“Sebass?”

“Marva no doubt knows.”

“Should we make contact or not?”

“Talk tomorrow so I can think this through. Just because we were forced to be a team doesn’t mean we should willingly be a team. N’est pas?”

“C’est vrai.” She looked down to see that they were holding hands. “Je suis amoureux de toi.”

“Et moi aussi, mon amour.” They laughed. She said something about romance being her favorite thing. He said his knowledge of French was entirely about love making.

They talked for hours in English about Grace and love and together. They each clearly had three loves; each other, Grace and the adventure to experience the meaning of time.

How does it work?

The mornings began early. She left for work, flying to New Bedford and to her family firm's office. Rudy rose with her and launched himself into coffee and his calculations. They kissed when she left. For her this reignited affections for him. He was quickly back to his mental world.

She bought a car that stayed at the Newark Liberty International Airport while she travelled back and forth. Her arrivals at Rudy's apartment was always lost on him. He was surprised to see her, and often, surprised again as she was out the door in the morning.

Her mother was completely committed to caring for her granddaughter while Alicia went to help Grace's father accept his child. Grandma knew about the special realities of those afflicted with genius. She trusted her daughter to know her own heart. When Alicia said she was leaving for Princeton for a week to see Rudy, it was a relief to her that her daughter found happiness in her grandmother's arms.

She walked through the door. Rudy was stunned. She walked into the room and hugged him as he sat.

He stood. She hugged him again, Full body. Nothing left to the imagination.

"What are you doing?"

"Stuff. What's with you?"

"You know what is strange to me about this whole time travel forward idea?" Alicia was hoping to intersect his thoughts.

"That it is such a dream." He offered.

“It might happen though. But that is not it. It is how odd it would be to travel forward and see Grace grown up and know nothing about how she did that. I wouldn’t know her or she me.”

“Not for the faint hearted?”

“Not for a new mom.”

“That.” Rudy knew he had participated with Alicia in a great creation. They had bonded. Grace was one result. Love is different for a father. Especially a reluctant one who was getting the idea but as the expression goes ‘time will tell.’ He laughed. She asked him for an explanation with her eyes.

“I don’t know. Maybe I felt the feeling that having a family gives you.”

“I like that.” She could tell he was lost in his mind or nearly so. He needed to talk. “What did you do today besides think?”

“Very little. I fed myself. I shopped for dinner.”

“You did!”

“A salad?”

“Yes, you are the best.”

Rudy stood from his desk and walked ten feet to the kitchen area. He opened the fridge and pulled a large salad bowl from it. He pulled a bottle of beer out too and set a table for one. One fork, one bowl, one beer.

“Share?”

“Always.”

They ate in quiet.

She looked at the newspaper as he cleared the table and did the dinner mess.

“Rudy how is this supposed to work? The going forward thing?”

“Traveling into the future utilizing the space-time structure requires speeds near c , the speed of light. The assumption is that the rapid movement changes the frame of the traveler who upon return would be younger than his peers who lived every day on earth as the traveler sped from here to there and back again. Marva can give us a photon. From that we can build a weapon.”

“From a photon?” She sounded disbelieving.

“OK. Strategy question. An effective weapon must be guarded against attack. A photon travels at or near the SOL. It can time travel. Marva explained it to me.”

“So?”

“The photon can be sent away to come back. It can travel for any number of seconds or centuries. It cannot be stopped once sent but by the time anyone knows any amount of time could have elapsed. When it returns to earth it is potentially a very destructive bomb. There is more but that is the effect.”

“That seems simple to imagine. The G machine launches something and ... how do we determine when and where it will return?”

“There is a series of equations that calculate the speed and distance needed to travel to move forward in time. There is another that makes a place to place navigation possible.”

“Let me ask this. Say we want to do some evil bastards in and not get caught. We imagine next week they will be in one place. All of them

together. We make your calculations so that the thing will come back and waste them. What part is time travel?"

"The time part. We can shoot a projectile to the spot you imagine but it will arrive say seconds or minutes from firing. If you want next week but shoot it today, that is time travel forward. The weird part is that the projectile goes at the SOL and travels parsecs while it 'waits for time to pass'. In fact, time does not pass for the projectile. The thing is back in seconds while ten years pass at the target."

"Bad part?"

"You cannot change your mind."

"Oh."

The virtual becomes the real

The next morning, Eyes of God and The Creation sat before a screen of one of the first home size computers. Rudy had an office at the University. The office was small, but it had the computer they needed. They had been entering statistics they gleaned from sports, entertainment and tv industry journals looking for a crowd of 100,000 plus people.

“We have to eliminate the influence of alcohol on the crowd. Chances are that means we act at an early point in the event rather than later.”

“Yup. From what I am seeing the event must be an early event. Not a concert. More like sports.”

“Bigger crowd but even the biggest stadium holds fewer than 100,000 unless it’s on a college or in Los Angeles.”

“Brings us down to the Rose Bowl with 108,000.”

“Which sez Super Bowl with a tv audience of maybe 80,000,000 judging from the recent past.”

“1983 Super Bowl in the Rose Bowl. That’s January 30, 1983.”

“Now the big questions.”

“Such as?”

“First is what do we do?”

“Second is when?”

“It has to be early. All eyes must be focused on the same object.”

“What’s the earliest?”

“The kick off.”

“Then what do we do? Disappear the object. What object?”

“The football.”

“No one will notice?”

“Maybe. And it has to involve G’s machine.”

“I am tempted to agree with you. We need an experiment. Opinions are not enough. Let’s find out.”

Alicia enjoyed her intellectual moments with Rudy. There were times when he neglected her as if she herself was an illusion.

He was double checking their figures, making sure they had made the right choice of event.

She snaked her arms around his waist and leaned on his shoulder.

“Let’s go home.”

“Home? Are we sharing a home?”

“Yes, you, me and Grace. Home.”

“Where the heart is?”

“Yeah, there.”

“What about M sub 2 and F sub 1?”

“I’ll call her from the apartment.”

“Let’s sleep on that.”

“Nope. One night is enough. You had your chance. Let’s do it. They have good ideas.”

F sub 1

Marva didn't answer her phone. Alicia had dialed her listed residential number just before noon eastern time hoping she would still be home near nine in the morning. Then she recalculated and figured she had called too late. There was no answer machine.

"No answer." She said.

"Hmm."

"I'll call earlier tomorrow. Unless ..."

She called Los Angeles directory information.

"Doctor Marva Bundenfelt, somewhere near Cal Poly. Looking for a business number." She tapped her pencil on the paper in front of her. Suddenly she began writing. Then, "Thank you."

She dialed the new number and "Hi. Marva? It's Alicia. You have a few moments?"

"What a surprise." Marva was calm and distracted. "What's the occasion."

"Time. It's about time." Alicia wanted Marva to get excited about the possibility of building G's machine. "We're building a machine. We have a plan."

"Who is we? Wait let me guess. A guy with his head in the sky. Teamed with a philosopher? What could go wrong?" She laughed alone and then apologized for being an asshole. "Sorry, shitty thing to say. Anyway, I am too busy to come east. Sebastian is ... you'll find out." Marva was dull. "I am over tired. Working days on end with very little sleep."

“Forgiven for the bad joke but not for saying no. By the way, can you get me in touch with Sebastian?”

Marva expressed no misgivings about passing Sebastian’s number along. “I work on the cyclotron. We’re testing the speed of light in a new way. I’m chasing electrons and photons near the SOL.”

Alicia sighed as she listened to her. “Sounds difficult. Sounds cool.” There was a pause Alicia filled. “I think you should change your mind. But before I lean on you, I want to hear from Sebass. Call you back. OK.”

“If you insist. Good luck with M sub 2. He’s hurt.”

“What?” Alicia and Marva were never close. Friends for sure so in Alicia’s philosophy forgiveness for Marva’s coldness was available, but what to make of her 180-degree change in favor of sympathy for Sebass. “Of course, you have a thing for him, but what hurt him?”

“Alicia, it would take all day to tell you. Short form: Me.”

“Hiding in work, eh?”

“Yes, so I better go. Good to talk. Good luck to you both.”

“Thanks.”

The phone clicked.

“Next is Sebass.” She said as she grabbed her winter gear and headed for the door. “I know where he is.”

M sub 2's epiphany

As Alicia and Rudy walked to the car, once more crossing the meadow along The Path on their way home, nothing was said. Their biggest fear was that they would end up like Sebastian from the guilt they felt about his fall from grace. People don't say things like that out loud. Maybe out of superstition. Nonetheless they felt reluctant.

The Institute had been kind to keep Sebastian on the payroll. They kept him even as he began to speak in terms that were not understood by his workmates. He seemed to have had a break, no longer attached to reality. This had happened to others at the Institute from time to time. No one thought it a big deal. Comes with the territory.

Even so, people were attempting to understand what he was talking about. Some said that he was speaking about the power of ecstatic knowledge. There was a bit he did on the way this power might work that he repeated as if we only must dream to make it so. He had paper which listed mystic relationships that demonstrated the existence of a truth that settles the argument he had with Gödel.

Alicia sat with him for nearly two hours listening to him discuss a world he recently imagined. That was his term. He said he woke one morning in his apartment with the idea in its entirety in his mind. He had been studying Gödel's works trying to find the secret G had kept that would unlock the gate. He repeated the word 'gate' as if every time he said it the meaning increased. He needed to repeat it.

At one point he stopped talking. Alicia saw that she might help him express his ideas through Socratic reasoning.

"Is this about the existence of a god or the big bang theory?"

“Neither.”

“Is this about who you are or your visions?”

“Both.”

“Ecstasy, from what source?”

“Epiphany, I thought.”

“Not nearly. I’d say too much drama. You do seem stressed. Give a class. Get another doctorate. Anything but continue beating your dead horse. Find a way out.”

He did not reply. She knew he knew so she gave him an exit with pride.

“How about dinner? Can you get out?”

“I am not a prisoner.”

“Is that a fact or an opinion?”

“What time?”

“Do you need time?”

“You mean now? I need a shower, a change of clothes and ...”

“A shave. One hour and I’ll be back. Meet you at the bus stop.”

She left and hoped. Met Rudy who waited patiently in the library at the IAS while she sat with Sebastian and now, they were walking to the car across the meadow on The Path that lead to who knows where or more important when.

“A beer?” He asked.

“I know a place.” She said.

They walked through the doors. Johnny was standing there inside and caught her eyes then his.

“A miracle. I was just wondering what became of you. It’s been months. A table over here. Follow me.”

And they were in as if they had never left as if it were still 1980 except, they knew where they were, who they were and why they were there.

It was almost six o’clock. They had been gone from the Institute for 15 minutes. They had a half hour to talk while they waited for Sebastian to reach the bus stop.

“Where are we taking him for food?”

Johnny walked up with their usuals as the question was asked. He handed them a menu.

“Check it out. Kitchen’s open.” He said as he distributed waters and coasters. “Where are the others?”

“Sebass will be with us, but we need to go get him. Save the table?”

“Yes. I’ve missed you.” Johnny had feelings. “Where’s F sub 1?”

“You are a kick.” Alicia said. “She’s chasing electrons and too busy for a spark.”

“Is that a song?”

“Not yet. I bet since its Sebastian’s prose it will be.”

The Standing Wave was buzzing. Conversations were difficult. All the talk became a sound few could hear distinctly. Pairs of people were standing near each other and speaking or so it seemed. One watched the other emoting while talking noticing the wrinkle in her nose or the wide-eyed amazements as he was reporting about whatever.

Appropriate counter-countenances were required to not interrupt the flow or the apparent attention so that the one who was speaking into

the roar was kept near. Aloneness was the worst. Made one look boring.

Rudy and Alicia together did not concern themselves with aloneness. They sat and watched the others while contemplating the amazing things that could happen from their meeting with Sebastian. The Wave was the only place they trusted that what they were seeing, and hearing was from the future and not the past. Alicia paid attention to the lyrics as a living philosophy that the wise could take as inevitable. Rudy thought the presence of musicians made it heaven. She knew what he meant and hoped he could prove it.

“Harmonious.” In a fit of enjoyment, she yelled at Rudy.

“What?” He yelled back.

“Music.” She shouted. He listened. He couldn’t make out what she was saying. He imagined she asked for the time. He checked his watch.

“It’s time to go.” He yelled back. He stood and started to put his coat on. She saw him, got the idea, finished her beer and joined him in a wave to Johnny as they headed toward the door.

They rode in silence, each wondering what they would see when they reached the bus stop. As they circled the meadow with The Path, headed for the institute, their minds were clear of judgment. Then they saw the bus stop structure.

He was there. He was smiling. They arrived. He climbed in and began talking.

“How are you?” He gave that much to personal politics and then launched his introduction to his new self. “You know, the one that is scaring my colleagues.”

As he spoke the signs of fear crossed his face. Rudy was driving. Alicia was studying her friend's face looking for what she saw. Something big had happened to him. He was not the same person, yet he had the same memories they shared from their year together in room number 167.

He talked about a deep depression as if he had suffered a painful heartbreak. He had gone to the Wave alone a few months after the group of four disbanded. It was finals week and a dull experience for someone who was hoping for some stimulation. Johnny had taken the night off. That did not help him either.

The next morning, he went to his small basement office in the Institute and sat for an hour in meditation on his condition. He returned with an image of Gödel's description of a machine to defeat time.

He talked for almost fifteen minutes and then went silent. By then they were parked near the Wave.

"Sebass, are you ready to go into the din?"

"Sounds fun. I have the time."

"And we have you." Alicia replied as she reached into the back seat to help pull M sub 2 from the backseat.

He walked up to the door, but it was Rudy behind him who pulled it open. Sebass poised ready to walk in as the guest who would be the first to admire the festive scene. As the doors opened, when the cacophony hit his ears, he halted, then turned and smiled into Rudy's face.

"Sebass, we don't have to go in." Rudy said. His look of concern was genuine. Who knew what chaos would do to what Rudy thought might be a deranged mind.

“Rudy, it is heaven.” The three laughed, walked forward together and were lost for hours within. The music was loud. The conversations not as loud. The distance between them at the small table at times was near zero. At that the threads of Sebastian’s ramblings were impossible to follow.

“I met a time traveler.”

“What?”

“He came forward fifteen years using the machine G designed.”

“What?”

“He said he was on a mission. He didn’t tell me what it was.”

“Was that before we parted?”

“I can’t hear you.”

“When did you meet him?”

“We were all here. At the big table. He sat with us then you left him with me.”

“What did he say?”

“We are on the same team. He was cryptic, so it’s not just me.”

“I remember him. He was drunk.”

“Nope. He was just trying to be clever.”

“So, you believed him?”

“Why not? We met another time with some friends of his. Mathematicians and physicists. Four altogether.”

“What’s his name?”

Sebastian drew a breath between his teeth. If the band hadn't cranked it up, they would have heard the hissing, but they couldn't. He never answered as Alicia decided to go to the bathroom and Rudy excused himself to help her get through the crowd between her and it.

Sebastian sat silent. He looked into the crowd and there he was, facing him, smiling, but not moving. He wondered if it was the same guy or just some friendly stranger looking for a hook up.

He was thinking about leaving. He was alone and embarrassed. As if he knew what he was doing he waved to Johnny for the check.

Rudy and Alicia had talked in the bathroom from adjoining stalls.

"Is he making this up?"

"No idea. From what I know this would be a first."

"Wish he were more stable, so I could trust him more. Do you think he can help us?"

"That is the important question."

When they arrived back at the table. He had paid the tab and was preparing to leave.

"Can't stay. Must go."

They grabbed their gear and were at the door as it closed behind him. Alicia pulled open the back door and he flopped into the seat behind hers.

"That was fun." He began after settling in and taking a big breath. "It's as good as it gets. Fact. The beginning was a mess. Stuff everywhere. Then a visual miracle occurs, and the mess becomes more orderly. At first it is the flatness of galaxies then the immenseness of black holes."

“So, it wasn’t a big bang, it was a big mess.” Alicia appreciated her joke with a boisterous laugh the likes of which no one had heard come from her. “Sorry. The beer.”

From then on, M sub 2 kept expounding on the meaning of ecstatic knowledge.

“There is a saying: Seeing is believing. The mess was seen and the observers were driven to make sense out of the nonsense.”

“Heisenberg?”

“That. And mysticism.”

“Mysticism? Whose?”

“Husserl. You see, the point is to see the world as a god might see it. We are born with no idea what it all is. Ecstatic knowledge is common amongst the young. As we age, we lose the ability to see the universe.”

“I get it.” Alicia said. “In a way the young are more adept than their elders.” Rudy drove to the Institute. “This your stop or where would you like to go?”

“Here is good. I don’t live here but I may as well. Home’s a mile from here. It feels like summer. It is nine. I can walk. I will miss you.”

This last made Alicia alert. “Miss us? Why?”

“Don’t think we can talk again.”

“Why?” She insisted.

“Obligations. Unmet debt. Priorities.”

“Yikes! Sounds serious.” Rudy was impressed by the sound of finality in Sebastian’s voice.

“We will help. We need you.” She was animated even insisting he must do as she asks.

“Not a good idea.” The coldness with which he spoke, supported the certainty.

“See you around then.” She responded in discouragement.

“Hah. Can’t happen. Thanks for the fun and the ears.” Sebastian nearly leapt from the car.

He walked away.

They drove away.

The decision to build the machine

“Do you think he means he is leaving? Why else say we won’t see him again, even by accident?” Alicia was imagining how this could be. Even after hours of listening to him she still had no active theory to support his patterns.

“Ya got me. Maybe the traveler’s coming for him?” Rudy tried a small laugh and gave up when he realized he might be right. “On the other hand, it leaves us free to do what we want to do. He didn’t sound capable of helping us in any case.”

She hated to be defeated, especially by a crazy colleague. Being a Platonist meant she should seek the good elsewhere. Being obsessed with analyzing the past was not a ‘good’ to seek. “Marva is different.”

“She has resources and up to the minute experience that might come in handy.” Rudy drove through the Princeton campus on the way to their humble studio apartment. Alicia was set to go back to New Bedford, back to work and back to Grace.

As he drove, he leaned over and pulled a copy of the want ads from the Courier out of the glovebox.

“We’ll need a bigger place. At least a two-bedroom. Maybe two baths if we can find one.”

Alicia stared at him as if to say are you sure. “That’s exciting. I hope.”

“I am excited.”

Alicia grabbed the paper and began her research into the Princeton rental market. He drove slowly through a neighborhood he liked searching for ‘For Rent’ signs.

She sat in the passenger seat, mumbling as she culled the listings for possibilities.

“Here’s one.” She said.

“Where is it?”

“Turn right at the next corner. It is only two blocks down at the end of a cul-de-sac.”

In a minute they were sitting in front of a small house.

“Seems nice. Shall we go west to do ground truthing, meet with Marva, talk business?”

“Yes, but let’s move here first. I need to figure out a way to get on the field and find the spot the ball we be placed. Math will then be final, and we can aim our whatever Marva gives us.” Rudy felt he had picked up his game and he wanted it all: Love, a happy home and time travel.

Marva's Marvelous Mind – the invention of nothing

Months later hours of travel took them to Marva's office at JPL. She had gotten them special passes into restricted areas including the one Marva worked in.

On the door was a post-it with the number 167 in broad black sharpie. Rudy walked by without seeing it. Alicia saw it. Marva was waiting for them. There were hugs. Alicia made note of the number on the door and they giggled teasing that they could be 'transported back to those days so simply.'

They sat. Rudy asked, "Can we build the machine?"

"If the plan is to construct and operate G's machine in its entirety," Marva said. "Then this is going to cost a lot of money to build. The machine shop to build the metal parts alone will be a fortune. The energy needed to launch will require a large coal plant or a nuke."

"Ah, so going all the way is not feasible." Rudy looked sad at her assessment. He was not surprised, however.

"Not for you and me" She said. "Maybe a multi-millionaire could afford it."

Alicia listened to the news as if it helped to diminish the danger they were accepting as part of the effort to satisfy their curiosity. Now with Marva's conclusion they could look again at what was proposed.

"OK. Problem solve."

"What are the issues? Size? Mass? The larger or denser an object is the more energy will be required. So small as to be invisible and nearly weightless might do it."

"Nothing will work." Marva said with a grin that might have betrayed her thinking, but her audience was set against hearing the thing said.

“Don’t be so negative.”

“Or flippant.”

“No, I mean it. Nothing is more than it sounds.” Marva wanted to laugh with the joy her instant realization brought her. She saw they would not share her joy without more information. Alicia helped.

“There is a thing called a Nothing?”

“Yes. Plus, Nothing is a thing that requires space to exist. Because it is a thing, it and any other object are unable to occupy the same space at the same time.”

“Where did it come from?” Alicia was as interested in this idea as she had been about any of the physics she had coexisted with over the last almost two years.

“Imagination.”

“That’s it then.” The breakthrough was due to this freak moment when it became obvious that it is possible to send a Nothing forward in time.

“The length of time is best if it is short. The trick is to attach the Nothing to a photon. Photon goes SOL and so does the Nothing.”

“Who can do this trick?”

“It is not hard if you start with a cyclotron and if you have a container to hold it until it is launched.”

“Can you help?”

“Psst. It’s about calculations which I can make, and you can check. Best results require an exact location for takeoff and landing. Get that to me by phone and then keep an eye on your return mail for the math and I’ll build the thing that will work.”

“Rose Bowl here we come.” Rudy started it then Alicia and Marva joined. The chant went on for long enough to upset Marva’s office mates who smirked in her direction until the three friends stopped after which a round of applause grew and the chant began again.

The summer

“The Nothing and the Photon were no sweat. You don’t need more than one small shot for the test you are speaking about.” Marva spoke with a giggle that said no matter how serious and deadly this might be it still is a pleasure. Esthetic Beauty is was and it is a joy to behold.

Rudy was far more serious about the nature of this project. He was obsessed by it.

“When you go to the Rose Bowl, you’ll need a couple cool gadgets.

This is an accurate GPS. It will find the place it inhabits down to less than 3 cms. And this is a laser range-finder similarly accurate. Get to the spot and use the GPS readout as the place. You’ll need both for your experiment.

“You are the queen of devises.”

“It was Nothing. Without that we are nowhere.” She was nearly laughing when she talked. “You know. What’s so funny is that on paper this is a good idea. It is very powerful. We have access to machines to make a Nothing. Which, of course, is a bit of a misnomer, because Nothing takes up space.

“One of the other interesting things is that light , a photon, and a Nothing are unaffected by travel in the atmosphere. They are not space craft requiring heat shields. It’s one of the things I hope to figure out is how these things happen.”

“Maybe they communicate somehow to one another and they make a path. Crazy? Complex Consciousness.”

“What’s that?”

“A kind of scientific philosophy.”

A machine to defeat time

It sat there on the table in Rudy, Alicia and Grace's house in the heart of Princeton. They were examining the new thing that Marva sent. It was about the size of a shoe box and the shape of a hair drier with a handle and a button on the side where the operator's thumb would rest. It looked like a harmless tool.

"What do you call it?"

Almost a year was spent figuring out how to do what they had hoped. They had no interest in human time travel. Price was a problem, but ultimately, they would have to send something smaller in order to satisfy scientific curiosity.

Marva had the basic idea of the Nothing. She had written to Rudy with a series of calculations he understood. G's design was modified, simplified.

But no doubt G's design had made a thing and there it was.

Grace was asleep. Alicia was simply happy. Rudy was holding her shoulders, standing behind her as she sat at the table.

"A Photon Gun."

"A Photon Gun? Does it shoot photons?"

"No."

"What does it shoot?"

"Nothing."

"Then why is it called a Photon Gun?"

“A photon travels fast. Real fast. Nothing can keep up with it. So, we attach a nothing to a photon and Zamboanga it’s a gun.”

“OK then what? We fire the gun that isn’t a gun and doesn’t look like one. We fire the gun and the Nothing travels forward in time which we can measure. Am I on the right path?”

“Yes. We will need accurate navigation for the Nothing, so it intersects the ball at precisely the right moment. The Nothing will travel ahead in time which means the Nothing, if we could see it, would be traveling very slowly or travelling very far, very fast and returning.”

“What will it do to the ball? Pop it?”

“Excellent question. There’s a ball sitting where we hope when we hope and the Nothing comes flying in and swallows the ball. There will be a noise, but every damn thing will be making noise at the same time so hopefully no one will be surprised.”

“Bingo, the ball disappears and then?”

“No one will notice.”

“Sez who?”

“Laws of Nature.”

“The ball will disappear in the future.”

“Which will be the present when we get there. While we wait after shooting the gun, we put the gun away and go to the game. We will have more than enough time to sit in our seats before the ball disappears.”

“So, the Nothing goes five minutes or five months into the future.”

“That is the plan.”

“If I fire a real gun it takes time to reach the target. If I fire a Photon gun it takes more time, more than seconds to reach its target, yet it goes so much faster.”

“Yup.”

“We will shoot. Put everything away. The event we are planning will happen. No one will notice, and we will escape detection.”

“Yup.”

“If we do the calculations correctly, we can fire the gun weeks rather than minutes earlier. That could give us more time to escape since no one would be looking for a suspect.”

“Especially if nothing happened.”

“Which brings up a question. Have you tried to shoot this thing? Did something time travel? If so, how do you know?”

Rudy was bamboozled by his own wishes. On one hand he wished he could time travel while on the other was a thirst for knowledge of reality. He wanted to believe but the desire for belief was not enough to produce a rational denial of what he observed. Cosmology is part science and part theology of a sort. Studying the infiniverse is the study of god.

“The Numbers are real to me. It is not theological. At its core it is about who we are, not who or what a god is. We are humans looking out. We have nothing, no information except what we gather.

“The problem with answers is that what we will shoot is small, actually, really small and hard to find even if there is no time shift.”

“No practice shot yet because you don’t know where the Nothing is supposed to go. True?”

“Yup.

“Now that’s talking. We don’t have to be there even. But I want to see. If I observe it, then it will happen my way.”

“Now it’s off to Marva for the navigation.”

“Let’s go west. Meet her in Pasadena. We can check out the venue if we plan well enough.”

The 1982 Rose Bowl

Rudy walked in front of Alicia. She watched him approach the stadium gate with the credentials Marva had generated from her desktop computer, perhaps the first computer generated printed document in the world. Alicia carried cameras, an electronic range finder and a Global Positioning Device that would be available, as Marva predicted, within a few decades, when the military no longer felt it was a secret.

Alicia was happy. She was happy with her life. Her female instincts were happy. Her intellectual life continued though she knew her philosophical pursuits were reduced to experiential dimensions.

Thinking was dedicated to thoughts of a nursery and then nursing and then pre-school which explained why Grace was not with them. Grace's GPs, aka grandparents, were living in the winter madness of New Jersey while her parents were basking in the warmth of Pasadena and a 100 degree El Nino heat wave.

Their ploy for being allowed onto the playing field was to meld into a group of video journalists who would go on the field with their equipment to set up the camera angles for the game shots. Not everyone could go down on the field, but photographers were permitted time to scope out the location of the kickoff marks. Alicia and Rudy were journalists.

Their little scheme worked. The powers let them join the rest. They walked onto the field in time to hear the commissioner announce that here on the spot to which he pointed was the very spot.

"The kickoff of the annual Rose Bowl Game and this year's Super Bowl are the most regulated moments in football. As the NFL commissioner I am required under penalty of losing my season tickets that the ball is

placed at exactly 1:10. Every camera in the stadium will focus on that ball and pan back for the kickoff that is scheduled to occur within 15 seconds after the ball is placed.”

The Commissioner pointed at a white X as in X marks the spot. Rudy used the GPD and did as Marva had taught him to find the nearly exact location of the ball at exactly 1:10:00 pm until 1:10:15 PST on the game day.

Once the info was noted by Alicia in her small paper notebook, they left the stadium to return to the location from which the Nothing would be launched.

They had the targeted spot. They had the targeted time. They had the details Marva needed.

Why bother?

“I am tired.”

“Too much travel and work?”

“And Mommy duties.”

“Oh, yeah.”

“Remind me why we are so busy. I do not have time for all of this.”

“No hurry. We have a year before the big game.”

Alicia’s patience was thin, or she would not have said anything about her state of being.

“I guess being a father is not as much work as being a mom. What do you think?”

“Ah. I am guessing I have it easy compared to you or what you do that I can see. I do some things but nursing and cooing the way you do ... those are yours.”

Alicia squeezed his hand.

“Sorry to be bitchy. You’re good. Do you have a shoulder rub?”

“How about a bath with salts? I’ll start it and rub your shoulders and neck. Deal? Do I get points?”

“We’ll see. I’ll let you know the score after the bath.”

“It will take a few minutes. We have time.”

He left to start the tub water. She stayed on the couch hoping she would get over her blues. Her thoughts drifted from one pain to

another until she settled on her mental picture of Grace in Rudy's arms. A smile crossed her face just in time for Rudy's return. He smiled back.

"I must have scored big I got a smile."

"You did. Is it time?"

"Yup it's 106 F. You first."

"Rudy, are we doing the experiment tonight? My mother is worried about our arrangements. I miss Grace when Mom has her. Tell me this will end."

"It will end." Rudy knew and he hoped he was going to be correct.

The First Experiment

They walked back and forth across three blocks of a rural patch in Jersey City, New Jersey.

The field was partially surrounded by a chain-link fence. They were standing in the middle of it, in the precise middle of it.

He used his flashlight to indicate the spot. "This is it." He said grinning with satisfaction.

"It's f- ing cold out here. I believe you."

"That's not science."

"Yes, it is. If I don't get some heat into my body my ass will be frozen." She was giggling. "I am a living experiment. This is borderline oppression."

"But for the good cause."

"What?"

"Love."

"I'd rather be in the bed all warm and cozy after another bath."

"Forty-five minutes. Tops and we'll be there." She was wrapping her arms around him. He was buried in her hair. "All for the sake of science."

He broke away from her to pull his backpack off and assemble the machine which he aligned with the evening's stars and the location of the center of the earth. He suspended his judgment about the accuracy of measurements he made. He became an optimist in the hope his skills were as perfect as were needed.

They went through a checklist they developed for optimum probability of success. While he was thinking, she had worried him about his theological position on science's role in finding god as if god was lost. She said that the role of science in finding god, that is to say in failing to find god, was a reason so many hated science. He said manliness includes otherwise inexplicable fanaticism such as supporting the LA Rams over SF 49'ers.

"So that is why there is a god?" Alicia knew she was being cryptic.

"Human's create a god to fill the void caused by the lack of data available to respond to a poorly asked question.

"Darling, this is outside my expertise."

"I am interested in your style of thinking that has led us to this forsaken lot, in the middle of a moonless night. In contrast, your sensuality is a side benefit, one I crave if for nothing but your body heat." Alicia chuckled as she spoke hoping he would focus on the humor instead of his death march style-attitude.

"I thought you were a philosopher." He replied as he handed her a black box. She grabbed it and held it close as if it was hot enough to warm her.

"No less than G's wife Adele. How could anyone but a philosopher be married to him for forty years?" She talked as he checked and rechecked the settings. He placed a paper bag he filled with rocks and debris about a meter true north of the machine.

He stood back. He took her arm and pulled her back with him for more than a dozen steps. They stopped.

"Is this far enough away?" She hoped.

“The range of the switch you are holding is 50 feet. We are sixteen paces or 48 feet.”

“Press the button?” She adjusted her ear protection.

He followed suit with hearing protection. “Please.” She couldn’t hear him.

“I love you.” He couldn’t hear her.

“Now or never. Time is passing.” She couldn’t hear him.

“Done.” There had been no sound. They couldn’t tell.

Exactly ten seconds later a flash of light so bright and sounding like a crash ripping metal to shreds was drowned in the sensory overload. Their ear protection was inadequate for the task.

They had spent the ten seconds watching the brown bag next to the machine. This was the target and it disappeared instantly.

They both gasped in shock. Their ears began to ring. Then they realized they were flash blinded.

By divine chance Rudy packed the equipment in his small back pack.

They found each other by sound and touch. In tears of pain they consoled each other with words that could not be heard by the other. They staggered arm in arm in what they hoped was the direction of the car. The glare’s influence diminished as they walked until their eyes could begin to distinguish their surroundings. They boarded their car, aided by the headlights and drove home. On the way their hearing returned.

Whatever merriment preceded the experiment was lost as they entered the dark of their house. They sat at the table with the remains of a bottle of wine they shared over dinner.

“What was that? That was the result of our experiment number one. Temporary hearing loss. Temporary blindness. Permanent bad memory.” Rudy recounted his experiences.

“Whatever it was, it was powerful.” Alicia said without inflection followed by her mini tirade. “Marva might have warned us.”

“She did say the physics indicated the potential for extreme outcomes. Now we know what she was saying.” Rudy rubbed his ears. “Positive side is that the navigation worked. Hit the target and nothing else.”

“Elapsed time was ten seconds. It went halfway to the sun and back.”

“Well, not really. The way I see it we must imagine the nothing ‘broke the speed of light.’ That way it went into the future. My calculations say it traveled for two seconds and leapt forward eight seconds.”

“Where did it go in two seconds?”

“Around the earth fifteen times. It traveled at the speed of light while we lagged behind.”

“So, whose ten seconds did it take? The nothing was gone for two seconds but ten for us. It went faster than we did.” Alicia was shaking her head trying to make sense out of the insensible.

“Confused?” Rudy knew this would make no sense. “We were late to the future.”

“That did not help. In case you needed to know from a witness.”

“But we calculated how late we would be, and we were correct to the 10 to the negative 9 seconds.”

“Maybe I should go back to poetry and leave the universe to others.” Alicia was afflicted by a streak of absolute madness. It was not very wide, but it was a raging river that divided her at times like these.

As they talked, they readied themselves for bed. The sun was hours away. As they laid down and pulled their comforter over themselves, Alicia sat up as if shocked into awareness.

“Darling. Help me review.”

“OK.”

“I was nearly killed.” Alicia looked at his eyes as if she wanted him to come to grips with a difficult situation.

“Me, too.”

“OK. We were nearly killed.” Alicia paused. He knew better than to speak. He waited, knowing, that whatever happened next, they would be together forever. “Rudy, you are the kindest person I have ever met. We share a child and several dreams one of which almost ended us. What’s next?”

“Hmm. I remember we were freezing our butts off in that trashed out lot. You wanted to be in this bed.”

“Oh, yeah. Now I remember.” She slid back down to her pillow turned to him and kissed his ear. “I have an idea. Ready?”

“I hope so.”

“Me, too.”

The long wait ends

Summer was a long season. The heat. The long hours of awake.

Grace was busy being almost two years old finger painting and going beyond the edges of the paper. Her mother was busy trying to debug the concepts that had led them to the position that they would attempt to show time travel is perceptually possible. These ruminations were long. Her projects were beyond the edge of common thinking.

The fall came. Rudy watched the TV on the weekends. He watched the kickoffs at the beginning of the halves of the few games that were broadcast. He would watch and time each part of the ritual. He paid special attention to the pro games on Sunday. There were two televised. He followed the standings. He knew nothing of the game itself. He knew no strategy. Knew there were passes and running plays. Little else interested him now except the opening kickoff and the chance something could go wrong. One game he saw the ball blown off the tee. He watched every game wondering if he would see another. No one kept this statistic. He had called the NFL and reached no one who could tell him.

He and Marva worried about the of the Nothing's navigation for the Super Bowl until they came to a one-hour travel time. They picked a location about a half mile from the stadium. It was a house with a high fence in the backyard. They set the equipment up on Saturday the 29th for the next day's game. Marva would take the shot while Alicia and Rudy watched from within the stadium.

The three friends sat up late at Marva's place. None of them could sleep. They each had done their own worrying about damaging something meaningful.

“It is odd to have completely designed this experiment and built the equipment.”

“Translates into it is our fault if there is an injury or we wreck the sport of football forever.”

“What if the experiment fails and everyone notices. Could anyone trace us?”

“Maybe to the spot but not to us. Really, we are alone in this. There are no others.”

“Unless Sebass was right and there is a traveler among us.”

“I have a bottle of wine. Shall I open it?” Marva’s suggestion was greeted with two oh, yeses. She rose from the shag rug she had been lounging on trying to remember her yoga poses. Rudy and Alicia were playing footsie on the couch. It was midnight.

The wine helped and the sun woke them hours before the game would begin.

The event



Hours later a football, in view of 80 million, disappeared. There was a football and then there was nothing. No one saw what no one could believe happened.

The football, which was meant to be kicked at the start of the game, disappeared from the tee as the referee who had put it there turned to whistle that time had begun. No one noticed the ball's disappearance, just its absence. No one said anything about 'disappear.' The referee scratched his head and signaled for a game ball which he placed on the tee. The referee said nothing, since he thought the problem was his. He acted embarrassed. None of the 80 million who were watching, with exceptions, 'knew' what had happened.

Marva watched the kickoff on TV. She saw the referee do the expected. She saw the ball there on the tee, but the TV panned toward the sidelines to follow the referee as he moved to allow the kicker free access to the ball. He turned after signaling and saw no ball. He signaled to the sidelines and a new ball was carried to him. No one said anything about the difficult to explain event.

In the now, the disappearance was unnoticed. It was in no ones' memory. The change was an illusion. The future was a 'normal' Super Bowl.

M sub 1 and F sub 2 had a different memory of the start of the 1983 Super Bowl since theirs included the disappearance of the football. They remembered because they predetermined it. An act they committed in the 'past' disappeared the ball in the present. It seemed a form of forward time travel. The method used involved replacement with an atmosphere at most [nearly massless], it was sent past the SOL using G equations tuned to future travel. Their calculations had to be precise as to place and time to avoid injuries on the field, but they only needed a small increment of time to send the 'packet' and disappear the ball. Alicia and Rudy were in the stands. The time required was less than a millisecond for the ball to be gone after a waiting period of sixty minutes for the nothing to travel to the ball. The navigation was difficult. A small computer using a four-dimensional space solved the navigation problem.

The past did not change. The memory of the moment was formed by what was perhaps a headshaking experience that was discarded by everyone who observed the experiment. The moment and the observer's doubt quickly clouded the near past and the fans went on as if it did not happen. The referee signaled the kick and the game began.

The din was so loud that no one had a thought much less the time to recount what was a lost memory only a second later.

But M sub 1 and F sub 2 knew what to expect if they were correct in their thinking and for them the event happened as imagined.

They left the stadium as the runback was in progress. They had proven the possibility that change is an illusion by using time travel. It was modest victory, but in their minds, it grew until it became a power to potentially control the world.

The game goes on

They left from LA International while the half time was in progress.

They held each other close as they fell asleep in their seats. Rudy dreamt of a nearby solar system. He sailed around the star and visited its worlds. In his dream he got back before dinner.

In Chicago after their time asleep they were roused by a cup of coffee after hiking a half mile to another terminal and to their departure gate for Newark.

The discussion as they return to the east coast was about Sebastian and a traveler. They spoke in hush tones without emotion and with vocabulary that did not draw attention.

It was January 30, 1983. Something had jumped ahead.

The traveler and the machine 1956

Prof. Nelson Edwards entered Prof. Kurt Gödel's office with great care. He had been warned that Gödel's office was a hoarder's paradise. Move slowly, he was advised. He had an appointment with the renowned Mathematician who asked him to stop by at exactly 2 pm.

He was wise to move slowly since the office floor was nearly covered with a three-foot-tall array of boxes of all kinds, which nearly covered the floor and all visible furniture. Papers were scattered on top of the boxes. There did not appear to be a system, though Nelson assumed the great logician must have had a method that formed the visible madness.

Gödel began talking as soon as Nelson entered the door. In seconds he had put on his coat and ushered Nelson out the door and down the hallway to another office door nearby.

"Einstein's." He said as he opened the lock and then the door. "Look around. Do not remove papers. A copy machine, have you seen one? It's in the corner there. The manual is above on the shelf. Make a copy if you can't resist. I sent along an archivist to help you. Be here in a few minutes."

He placed the key into Nelson's hand. He looked up to see disbelief in his eyes.

"Questions?"

"To what end?"

"The Curator will explain but look for Dr Einstein's work. You know it? Handwritten notes are good. Look for interesting discussions with his

colleagues. Maybe a hidden breakthrough. Make notes as to how to find them again.”

“How long do I have? A week? A month?”

“Sie sprechen fließend Deutsch? Du liest Deutsch? Wissenschaftliche Termenologie?”

“Ya, Heir Professor.”

“Gut. Take your time. You’ll be the last to see it as it was when the great man died.” Gödel watched Nelson as he roamed about the office seeking to get acquainted. When he turned to find the professor, he was gone, and a diminutive woman stood in the door.”

“Nancy Wong, Sir. From the library. The curator, Sir.”

Nelson smiled. He felt awkward. “You remind me of my wife. Pleasant surprise. Professor Edwards. Happy to meet you.”

“And I as well.”

“Shall we begin? What am I to do?”

She knew what was to be done to preserve the papers and he knew what they said. They got along famously. He took her advice and she was impressed by his skills in German. He paged through boxes and files without moving a paper from one place to another. Her admonishment was to catalogue everything but move or remove nothing.

That rule was obeyed. He made no copies until near the end of their task. He found a letter from Gödel to Einstein entitled ‘A machine to defeat time.’ It was also when he began to talk to himself.

“Dr Edwards, are you OK?”

“What?”

“You were saying, ‘Oh, no.’ Over and over again.”

“Is that normal?”

“Maybe for you. Just checking, Sir.”

“I am dandy.”

“Did you find something interesting?”

“Yes. No. Ah...”

“I can make a copy for you.”

“Thanks. Ms. Wong.”

The day went on and he left Wong to close the office. He clutched in his hands a manila folder with a six-page document. He knew the title - ‘A machine to defeat time.’ – and he could hardly wait to reach his room to open it up and discover what Gödel meant by that title.

The E-Group forms

They called themselves brothers because they had earned their doctorates at U of Chicago in a physics program that had done in weaker men. They in their minds were the heroes of truth and could prove it.

“Let’s build it and see what it can do.” Bravado filled the air after Nelson’s presentation to their private party room in the Elks Club. Nelson chose this place because it had a 20-foot-long wall of blackboards he thought would help.

During his half-hour presentation, he filled the boards with drawings, equations and checklists. Nelson knew his mates were boisterous when drunk. The Elks Club had free Screwdrivers from 5 until 7. He invited them for 5 so they would come for the drinks. They stayed for the lecture and the boisterous affirmation of a group project, highly secret. They would build Gödel’s time machine.

Nelson’s concerns were huge. He hoped he would become the traveler. There were many problems that kept him awake at night. The costs were beyond his and his brothers’ capacity to fund. The university had an aggressive physics grant program that might be usable for building the machine itself. The five of them would be able to raise the needed money. But there was a bigger problem. One of the brothers, Byron, was an expert on power sources and how to tap them. If he could deliver on his commitment, they might make history.

One Einstein Field Equation

$$R_{\mu\nu} - \frac{1}{2}R g_{\mu\nu} + \Lambda g_{\mu\nu} = \frac{8\pi G}{c^4} T_{\mu\nu}$$

When Nelson followed Gödel through the door into E's office, he saw on a blackboard what he knew to be one of ten of Einstein's Field Equations. He had tried finding solutions of the EFE. That it was one of the last things Einstein wrote perhaps meant he was trying to complete a circle.

Within G's circle at IAS there was consternation around Gödel's 1949 solution to the EFE. Time was a problem no one had solved. G and E called time an illusion which for a period was replaced by space-time where time is 'another dimension.' This meant that in this universe travel 'forward' or 'backward' is similar to up down, left right.

Uncomfortably it also meant that everything throughout all 'time' exists at once. There is only a steady state, the vision of which can only be gained in the lifetime of an observer. Complexity and the nature of consciousness tell us the observer is 'alive.' Being, by definition, timeless, it views existence without time, therefore a fit for the definition of 'god.'

There is a heretical reaction – an explanation – that God is not this way, not 'an observer' but a father figure [like the bible might describe to some]. A religious fervor pushed the E- group to use G's theory against itself.

They discovered G designed a machine that would carry a human under a set of conditions where the effects of Time Travel [noise and shock

factors] on both ends would, in his theory, be unnoticed. They built a location from which a launch would be made and in which the traveler 'landed.'

Once the designed machine was complete one of them, the youngest and lightest one, Nelson, was chosen to go forward, which in a sense is a death, and all this to accomplish the circle's common goal. The plan was to go forward and locate Gödel and his work. Nelson was to find and destroy his Time Travel design to keep it out of the hands of a future G fanatic who might misuse the TT machine.

1983 After the first experiment and after the Rose Bowl - The Traveler

The results of their two experiments kept Rudy busy all winter. He worked late on the data and rose early to care for Grace when Alicia was in New Bedford working. They had moved into the small house near Princeton U. The resources he needed for his work were close at hand.

Their new house was one of those perfect American Dream homes with two bedrooms a large dining room and a walkway that came from a sidewalk along the perfect little side street away from traffic and near a park that would be Grace's favorite place to be in the late spring months into the future when the snow was gone.

He was reading 'It's Not Easy Being a Bunny' aloud while Grace was finishing her breakfast. Every time he said P.J. Funnybunny she giggled so enthusiastically her half-chewed toast would be launched across the table in front of her.

During one of her fits, the doorbell rang. Rudy looked out the dining room window to see fresh footprints in the new snow on the walk.

Grace yelled, "Mailman." Sputtering even more bread.

Rudy pulled the door open. A tall thin man stood on the porch with his hand extended.

"Doctor Vega, my name is Nelson Edwards, a professor at Princeton. I teach Quantum Mechanics and Mathematics. I believe you were a student in Stochastic QM in the first quarter of 1976, my first class after returning from 15 years of traveling."

“Yes, doctor, come in. Standing at the door is uncomfortable.” Rudy thought Nelson looked familiar. Nelson entered the foyer and unburdened himself of his hat, coat and gloves.

“Thanks.” He said as Rudy helped him hang his coat. “I have an errand that has brought me here.”

“I am guessing I know what it is about. It’s a matter of time.”

“Yes.”

Rudy offered him coffee, sat him at the dinner table to entertain Grace while he fetched a cup. Grace liked meeting people. She had her routine of introducing herself by explaining something. This morning she chose to talk about the psychology of P.J. who hated being a bunny and how strange it must be to not like who you are. Nelson sat mesmerized listening to the precocious Grace.

Rudy came back with two cups of coffee.

“You have children.” Rudy asked to break the spell.

“Two. She is funny and cute. What’s her name?” They sipped their coffee for a few moments.

“Grace. She’s almost three.” Grace held up three fingers.

They sipped their coffee. There was no hurry.

Grace watched the two men blow on their hot coffee and filled the silence with an explanation of how everything in the universe was formed from star dust. Finally, it was Rudy’s turn again.

“What brought you to my door?” Rudy looked at the professor who was young looking for his 50 years. Rudy saw words on the older man’s face that said this was a confrontation.

Nelson wanted to stand to be in charge, but he thought better of it sensing that the younger man was more fit for combat. No need for unpleasantries at this point.

“I see you studied for your doctorate with Dean James Peebles. A good man, Peebles. If I am correct you were one of four post docs who reviewed Professor Gödel’s papers in his office. I, of course, worked with Dr Gödel shortly in 1956 to review Dr Einstein’s collection a few months after his passing. The Heir Doctor Gödel was my mentor at the institute for four years. The best years of my life.”

“I can imagine.”

“It was good to know them both to think as they did about the structure of everything, searching for a meaning for time.” Nelson was talking faster and slightly louder. Rudy thought it was the coffee but perhaps it was the emotion that seemed to fill his being.

“Einstein was dead when I came here,” Rudy offered. “But Gödel provided what I needed to complete my thesis. I really got to know him from his papers. I was indeed part of the team that organized and studied his work. Grace’s mother was as well. It’s how we met.”

They sat in silence finishing their drinks. Rudy had thought there would be this moment when a traveler would find him. Alicia had worked out the motive. It would be revenge, she thought, for over-stepping some ideological boundary by recreating the work that he, The Traveler, was trying to prevent from being discovered.

Rudy did not want to overwhelm Nelson, but he could not wait any longer.

“You realize,” he began, “there are only a few people who know what we did last winter in moving something into the future. We had found Gödel’s work on a machine designed to transport a human and we built

one that was a very small version to test the hypothesis. We had also found that Einstein's papers did not have Gödel's work but that correspondence between them showed it should have been amongst his files. We speculated a theft had occurred. When we investigated who had worked with Gödel on Einstein's papers, we learned your name. In short, we knew who you were and to expect you. We had studied your life history and saw it fit our suspicions, then of course, you were still here at Princeton."

"Yes, well, I am here."

"And now."

"Clever. Well put." Nelson seemed calmer after Rudy's admissions.

As he calmed down Grace was getting antsy, so Rudy set her on the floor. She scurried off talking to herself leaving the men alone with their problem to solve.

Nelson was one of those who recognized the value of politeness and decorum. He was not an interrogator. Direct questions about personal matters were beyond the pale. He preferred indirectness avoiding inuendo. Science and Mathematics were devoid of such discourtesies.

Rudy suspected this about him. Nelson had grown up a generation before Rudy no matter how it looked to the casual observer. Their instincts were different. They had different fears. Twenty-five years difference will separate two people in these ways.

"Dr Edwards, you have waited long for this moment. What did you imagine would happen next?"

"I like you Dr Vega. You do not lack courage. Perhaps I owe you a bit more of my story beyond what you could have learned from your research. As to your question ... "

The phone rang. Rudy rose to go to the phone in the kitchen. He was gone for less than a minute. He returned with the coffee pot. Rudy held it out to him.

“More coffee?”

“No thanks. I could use a bathroom though.”

“Down and to the right. Just where you would expect.”

Nelson left. Rudy cleared the cups and Grace’s mess. He called Alicia back and told her what was going on. She decided to head home. She’d be there for lunch and asked if he could stall Nelson for her, so she could hear his story. Amid his promise to try, Nelson returned to the dining room.

“Dr Vega, I must ask your pardon. I came here without an agenda, more to get the first contact behind me and now I realize this will take more time than I have this morning.”

“Good. Alicia, the philosopher on our team and Grace’s mother, asked me to stall you. When are you available? Meeting here makes sense to me. With Grace and all it is difficult to have meetings with both Alicia and I anywhere else. Can you come back today?”

“I need a few hours. I have a class in fifteen minutes and then I am free. Will that work?”

“Lunch it is. We’ll order out when you get back. Thanks. Alicia will be excited.” Nelson left.

The time passed and within minutes of each other Alicia and Nelson arrived to join Rudy and Grace who were busy singing songs from a Gaelic lullaby song book Alicia’s mother had given her.

They ordered pizza and sat at the dining room table with Grace between Rudy and Alicia as they waited for the delivery. Grace chewed

on some pretzels trying out her teeth on something hard but yummy. Pizza was still a bit complicated for her.

The groaners, as Grace called adults, were deep into introductions and a short discussion of the philosophers concerns regarding time travel. Alicia found the subject interesting, but the work done so far in the century since it had been introduced was relatively empty.

“We have had nothing to talk about except what ifs.” Alicia’s philosopher vocabulary had suffered from a change of profession and motherhood.

“Until now.” Rudy knew that the discussion would change with the seriousness of the topic.

“In 1956 when I first found the drawings for the machine, we had ... what by that time ... about six years to mull over Gödel’s solution to Einstein’s equations that showed time travel into the past was possible. Going backwards was problematic even with the solution, but the effects of Gödel’s forward travel solutions were unknown. No one had thought that through.” Nelson was talking with a tired voice betraying that his life in the future had been more of a challenge than was due any human who stayed in one’s own time.

“How many of you were there who built the machine? Are they still here and now?”

“There were four others who were my colleagues in QM at Chicago, and we worked out the details, built a model and then sent me forward. We had many discussions. We worked in secret because we were intent upon stopping the thing itself from getting out to others.”

“That’s a lot of details.”

“Yes, but oddly enough we decided we had to do it to stop it.”

“Someone else could have done it.”

“Maybe but we also figured out a machine that could detect time travel by sensing a change in the texture of the present moment.”

“A wrinkle in time?”

“Yes, but more science and less poetry. And that is how I found you so quickly.”

They sat tending their lunch beverages waiting for the knock on the door announcing the arrival of their large pepperoni pizza. The knock came, and the silence was filled with feeding their physical hungers. Alicia sat with Grace as she munched on her fresh peas and apple sauce.

The men talked science in between bites. Alicia had been silent preferring to listen to the sound of Rudy’s voice talking about the mysteries of time and change quoting both G and E to compare the nuances of illusion that had energized their love for their mentors and heroes.

Alicia crammed a slice into her mouth and chewed continuously until chased by ice water her mouth was again empty. Her mind was full but not about philosophy per se. She was a mother after all.

“Nelson, how old are you?” She asked when she could talk.

Nelson pulled his next bite away from his mouth, so he could answer.

“It is a subject for debate. I debate myself often because who else is there to talk to about the idea. The math works out one way, however I fear the reality is constant. I am either 35 or 50. I could say on any given day it is one or the other. Sounds contradictory but this is tricky territory.”

“Good answer. I am close to your age if you are 35. You are close to my father’s if you are 50. This must be a bother for you at times. But I wonder how if you skipped 15 years your mind could be anything but 35. Your body looks as if you somehow skipped the time all together.”

“At first I was just lost. Time, the context, had changed. I had not. The passage took no time at all for me. It was in 1959 and then I was in 1974. In the blink of an eye. In theory, if I had traveled at the speed of light for 15 years earth years and returned to earth, I would not have aged. Everyone else would have. The difference between the two means of travel was in my personal experience. Space travel would have taken time, so I would have aged on the way but in Gödel’s method using his machine it was immediate. I am still working on thinking this out.”

“Why did you move through time. Why did you go ahead and not just live out your years as everyone else has?”

“The motive question?” Rudy nodded. “The answer changes with the context. Primarily once the machine plans were in our hands, we had to build it. Once it was built, we had to use it. And as we planned that we saw that the experiment would be proven if I suddenly appeared in one of my friends living rooms for that aha moment. But then beyond the science there had to be a social reason to dare to try and to risk what ... death, pain whatever.”

“A social reason like preventing an imagined harm?”

“That’s right. Time travel is not for everyone.” Nelson laughed. “We intended to ensure that we would be the only ones to use it.”

“You joke. Compared to the Grandfather Paradox what harm could come from it? How could forward be as dangerous as backwards?”

“You have thought this out. What was your take?” Alicia was chewing. Rudy responded.

“You built a weapon harming the future that could not be stopped without going backwards in time.” Rudy paused. “An impossible problem to solve.”

“The cure?”

“Yours would be to destroy all the plans and all the machines made from them. Complete prevention.” Alicia said.

“And the scientists who know how to build them.” Nelson was adamant.

“Nelson, now you are showing your age. Ideas do not die. Men and women die but the thing itself was loosed on the world in 1905. You would have to go back and change that. But what if Einstein, bless his heart, had impregnated your grandmother in 1910. If you kill him, you kill yourself.”

“Now you can see why I do not talk about this with anyone but myself.”

“You are joking again. Nelson, you are the only one who did what you did. The four of us decided it was not a happy thing to do. We sent a nothing into the future to pop a football. We weren’t testing the hypothesis of time travel but the illusion of time and change. We see the weapon it could have been but that was not the idea, at least not the one we wanted to encourage.”

“I know not with what weapons World War III will be fought, but World War IV will be fought with sticks and stones.” Nelson offered. “Where is your machine?”

“You devil and you quote Einstein. It was made from parts we borrowed. Once the football popped in front of 80,00,000 people, we returned the parts and then we waited for you to come.”

“You knew?”

“When we found no plans in E’s stuff, we knew someone was coming for us. G’s copies of the plans for the machine were also stolen but returned. It was then that we had the possibility to make one. When we ran our experiment and the Nothing went ahead as we observed then we knew we had changed something and likely whoever took E’s copy would know enough to detect our work. Et voila, you are here.”

Nelson put the piece of pizza he had been holding into his mouth effectively ending the interchange. On cue Grace screamed for more something and Alicia left the room for that something to satisfy the loud child.

Rudy had listened intently to their conversation feeding his belly and his mind. He saw no reason to add anything to it and rose from the table to clear away the pizza mess.

So, what can we do?

Alicia sat in her nursing chair. The men were on the couch. Each could see the other two. Grace saw everyone had a serious look on their faces and wandered around the coffee table looking each in the eye then crawled up over Alicia's crossed legs into her lap to snuggle into her breasts while keeping her eye firmly on Nelson who in his way investigated her. Alicia spoke.

"Philosophically speaking the guidance is unconvincing. Assuming the impossible is not a good start for analysis. Therefore, we begin a new way to contemplate the big questions: Who am I and why am I? But then science and mathematics are on this path with their tools and logics. Philosophy is abandoned while the real minds are at work. Philosophy is referred to at times when logic and data fail. Then philosophers are sought to clean up the mess while the theologians try to elbow us out of the way."

Grace looked up from Alicia's lap into her mother's eyes. "Mommy, you have tears in your eyes? Should I be afraid?"

Alicia looked down. "My beloved, there is no fear in my lap only in the bigger world. Not all people are kind and trusted. It's not my idea but the way time has left us."

Grace wiggled this way and that while the elders were all privately glad she had come to life to give them the child's pure vision. If there was a war for the future amongst the ones who discovered G's ideas or obtained G's drawings, the adults knew the real enemies, if they existed, were not in the room.

Alicia rose with Grace in her arms and headed to the bedroom to put Grace to sleep. Her fearful outburst had been her last and she stopped

thinking and began hoping for sleep to cleanse these ideas from her mind.

Rudy kissed his daughter's head as she was taken by. Nelson smiled seeming to remember times like these.

"Rudy, there is a secret I have not told you. There is a story that goes with it. A long one."

"What is it?"

"The secret is that there are others who are busy wrinkling time, and they are not benign."

"Why not?"

"They are going big."

"Into the future?"

"Yes."

"What are they moving? People?"

"If our physics is correct, they are moving heavy objects."

"From where to where?"

"Looks like they are just tossing their load up in the air and it lands back where it began."

"How many years before the load returns?"

"Again, if we are right, exactly ten years from launch."

"Undervalued objects sent to the future. How would one know what to move forward?"

"We think it is more sinister. Assets. Money. Precious whatever. That is what they are sending."

“But why lose control of it for a period of time?”

“We figure they are trying to defeat the courts. Maybe corruption in a new form.”

“If the objective is to hide it from authorities, then you send it on a slow path forward, no one can find it, they stop looking, you get it back if you live long enough.”

“Mobsters.” Alicia said as she re-entered the room. “I heard the discussion from down the hall. Mobsters.”

“Probably.” Nelson’s voice saddened.

“Have you done any research to identify who it may have been based on their case history?”

“Yes, Alicia, and we have found some suspects.” Nelson’s voice sounded fearful enough to make Alicia believe his story was true. Rudy was less accepting.

“Who’s ‘we’?” Rudy asked.

“I had four colleagues in 1957 and three are still in contact. We worked on the tracking data and research on suspects. Who’s ‘we’ for you?”

“I have had three since 1980 and two are in contact.” Rudy thought about mentioning Sebastian’s name, but Nelson interrupted.

“Can we assume the two missing have the drawings and the skills?”

“Seems a good guess.” Rudy said. “Mine’s a mathematician.”

“Mine’s a physicist.”

They sat quietly waiting for a new idea to cross his mind.

“When did you detect the wrinkles?” Came to him and within seconds he had said it.

“Before yours. Early 1982. Yours were late 1982 and early 1983.”

“Why would your suspects wait so long to retrieve their goods?”

“It wasn’t for fun. That’s why I suspected money laundering.”

“It’s a current problem.” Rudy mused. “Maybe they are mixed up in bigger things.”

“Drugs and Russians.” Nelson whispered. “They are from New Jersey for God’s sake.”

When Alicia had returned she was carrying a bottle of wine, a rosé, her favorite in one hand. There were three glasses in the other.

“Anyone feel the need?” She popped the cork and poured three sips in three glasses. They silently picked one and raised their glasses.

“Salut.” Someone said.

“Cheers.” Another.

“Arriba, a bajo, el dentro.” The third.

They coifed, put their glasses down and waited as if asked to be silent while the taste of berries and nuts filled their throats.

“Thank you. That is a very fragrant wine.” Nelson put his not empty glass on the table. “We are at a point where we need our faculties”

“Yes.” Alicia was intense. “Just thought a notch or two could be removed from the tension. Wine makes peace in my experience. Yes, I heard your news and my inferences produced my emotions. Thus, the wine.”

She looked from eye to eye and saw she was not shamed. The looks she saw were those of gratitude.

“Sorry, if I was a bad guest.” Nelson was from an earlier era where men lead, but recently he had learned that the shared experience was the best. Now he was with his second wife one who was in her late twenties. “Let’s proceed.”

Rudy saw Alicia chomping at her bit and waited for her to speak. “Philosophers are not probabilists. Is that a word? We wonder about the future we might create from our actions. But good v bad exists only in the Now. The future is supposed to take care of itself.

“If what we individually did has made a mess, we owe it to ourselves to clean up our mess. We did what we did, and wrinkled time based on our own decision. No one else asked for this. Now we are seeing the MOB of the future upsetting our lives because they have transferred wealth to the future.” She stopped picked up her glass and sipped again.

“Thus, my dear, philosophy tells us to act to do the Good for others?” Rudy thought she would nod yea and be done with it because her beloved Socrates had said so.

“Yes, but ... we act for ourselves, at least we hope so. The best good for us is to act to benefit others.” Alicia spoke with a kind of seriousness Rudy had not heard before.

The men held their talk as their minds tried to unwind what Alicia had suggested. Rudy was used to this down time for rumination. Nelson was clearly conflicted, even anxious as he visibly was engaged in a battle for clarity. Alicia busied herself with the wine, studying the label, probably reading it and showing no intention to add to her for-the-good-of-all speech. Nelson was the one who went on.

“In 1957, I jumped ahead to 1972 and now eleven years later I am finding what I feared would happen. When I left my native time zone, I

was intent on stopping a weapon that would be available for WWII, the war that Einstein predicted would end technological civilization.”

“And what did you plan to do to whomever you caught?” Alicia’s voice had a tone of disbelief that the question was being asked in her Livingroom.

“I imagined death would be needed. I was young. I was inexperienced in using force. Even today I would not know how to proceed if it was deemed required.”

“I guess you do not know what to do now?” Rudy’s grimace revealed his sharing of her feelings.

“I suppose that is why we are talking.” Nelson replied.

Alicia returned to her most intense. “You all know that there is no certainty that you know what is going on. Our actions so far have caused problems – witness the wrinkles. To devise a new action based on what you have said seems premature at best.”

“What should we do then, Madam Philosopher?”

“More experiments. More devices to detect and locate the other experimenters.” Alicia knew by a force only she understood that life is made from seeking. “The more we know the better we will be.”

Nelson nodded agreement. “We have the detector, but we do not have the locator. However, the data allows us to guess the location within a range of probabilities. We think. But we have not ground truthed any of it yet.”

“What about you? What is your role, Alicia?” Rudy tried to hide an affectionate sneer for the non-scientific doctor among them.

“The most interesting possibility for me is to become Nancy Drew. Someone’s gotta check out the possible locations.” Alicia had spent the

better part of a year imagining how a philosopher was supposed to act around such eminent problem solvers. Her autobiography reads like a textbook for the ordinary to flourish amongst 'their betters.' The humor proves she enjoyed her role.

"We're the Hardy Boys." Rudy offered. They all laughed as the rosé was slowly disappearing from the bottle. Their discussion whirled around their fears and their imaginations which were often the same. The talk went back and forth.

As periods of silence became longer Nelson caught himself nodding, rose and excused himself to return to the university. The talk at the door was about tomorrow and the need to press ahead with their plan.

When the door closed. Alicia and Rudy hugged and returned to the couch.

"What if?" She waited to see his attention drawn to her voice. "I have a few of these questions. Are you ready?" Alicia studied her friend's face as she spoke. They had never argued or even had a heated discussion. She took his silence as permission. "Rudy, your idea is that science depends upon whose science it is. If one is a religious minded believer, then their science sounds like the Big Bang. If one is not a believer, then science sounds like complex consciousness which is mistaken as a replacement for a deity. Do I have that?"

"To each one's own. That is the bottom line from relativity. There is no choice. No two humans are alike. No one is standing in the same place as another. Every one of us gets our view and that view turns uncertainty into a perception and with others' perceptions we form a vision of a complex consciousness. That is a higher being."

"Is that god?"

"It is the highest being we have imagined."

“Higher than Jehovah?”

“There is no science to Jehovah. Theology? Maybe, but no data of any sort to support Jehovah’s existence, never mind a being higher than the complex consciousness that is deducible from experience.”

“You and your damn facts.”

“There are facts and there are data.” Rudy’s voice was becoming labored. Alicia offered him water from her glass. They smiled at each other. Somewhere in them a common thread was being woven into a fabric of ideas. She was abstract to his realism until they began to speak from a place where Cosmology and Philosophy were one.

There is an art to successful verbal communication. Alicia thought the most useful lessons came from failure. The process one follows to learn the most valuable lesson from a failure involves honesty and self-worth. One must be brutally honest with oneself but with the realization that ultimately it will increase self-worth. She knew he was deep into the new ideas that the Einstein and Gödel explorations had caused.

When she came out of her contemplations, he was massaging his temples. He had already had a long day. The post lunch red wine induced a headache he wished would go away. Long ago he had chosen the corner of their sofa as his safe place for his aching temples. As they talked, he was curled up, eyes closed, with his migraine throbbing for twenty minutes as he waited for the aspirin to take effect.

“I have another question.” She said.

When she spoke, his eyes darted to her face to see what she was asking.

“What happened to you at Peebles’ lecture?”

“I don’t know. I was lost in thought. Perhaps, I wanted to remember something he said or something that flashed into my mind after he said it.” Rudy spoke with a grimace that made his words seem tense even angry. She noticed but having seen it before she took nothing personally, hoping with him that his pain would soon pass.

He stopped talking and as he did his face changed. She felt him leave the room. He is revisiting his memory she conjectured. Give him time. She smiled to herself. We are close to the end she thought. They sat still for nearly ten minutes. She was patient as she watched his face for signs of his inner workings. This was a familiar situation for them.

“It was about time and G’s vision or the one he did not have.”

“Is that the one you had?”

“I hesitate to say.” Rudy was never devious she thought. She hoped he would clear up his vagueness.

“Rudy, keep it to yourself if it helps. Just my selfish curiosity.”

He became more animated as if a switch was thrown.

“Migraine’s gone.” He stood. “I need a shower.” Off he went with Alicia smiling at his escape from revelation.

Rudy's Epiphany

Professor Rodolpho Vega published his first post doc paper in 1983. *The Mechanisms of Consciousness* was commented on by several cosmologists and astrophysicists when it was published in the Philosophy of Cosmology. The journal began shortly after Dr. James Peebles published his watershed work on Physical Cosmology. In his paper and related lectures, Professor Vega broke it down.

The *Mechanisms* describes three processes from which Reality or Consciousness results.

The first is the scientific methodology made simple.

There is an observer with the ability to gather sensory data to develop perceptions of reality. Observers are everywhere, many and diverse with individual perceptions and therefore individual realities. The Reality is a community product from reports of generations of observers. When communities remain isolated the members speak their own language with their own reality shared by anyone in the community.

The second process involves Special and General Relativity as well as the Uncertainty Principle.

Together they define Individual Consciousness taken together they form the Complex Consciousness that comprises the Universe. Relativity gives us the observer. General Relativity and Quantum Physics defines the physics of the universe and together they dispute the existence of time and thus change. It is this process that Gödel and Einstein sought epiphanies to explain. The Uncertainty Principle describes a power, a force to create an interpretation of data that

creates the universe. The Creator is the Observer which is taken to be all possible observers together and thus the universe.

The third process involves Epiphany from whatever of the various mechanisms and in specific he discussed Salvia.

His thesis was that with intention Salvia provided a visualization. The experience was one of deconstruction of material universes to reveal what lies behind it. The revelation was that matter is not what we make of it and is unlike anything you believe it to be.

In his lecture he described it thus:

In the beginning was uncertainty.

An observer changed the uncertainty into a personal reality.

That personal reality was joined with others from other observers to form a hive vision of the Universe.

The Complex Consciousness is the sum of all the observers.

It has always been and always will be. There is everything that is and that is the Complex Consciousness. Existence is conscious.

There is uncertainty because that is the process of life. I make it real for me. I share.

Most observers are short lived.

The certainty they 'made' dies with them.

This change from uncertainty to certainty and back again is an illusion experienced by an observer.

What is called science or theology involves trying to describe a personal reality composed of a complicated mass of personal observations. The hive vision. That there is confusion about the

nature of life is understandable given the short life of many observers. The hive vision is defective as a tool to describe the Complex Consciousness. The reason may come from which who is describing the Complex Consciousness. Even the entire recorded history of every individual observation is finite. Finite experience from a limited perspective is incapable of being able to speak a truth large enough to be true about the Complex Consciousness.

The MOB 1982

There is no doubt that crime in New Jersey was beyond control. The eighties began with scandal ridden casinos going bankrupt amid rumors of a MOB arranged 'bust out' to take as much wealth from others as possible.

Bankrupt casinos meant big money had moved into the game. The MOB was the American version of the Mafia which was being replaced with another international cartel of Asians including Iran, Kazakhstan, China and the remnants of the old Soviet Union. It would take a decade for Asians to best the Americans in MOB-world. One thing was certain the Americans knew they were being replaced and they were preparing for an all-out battle for survival.

"It was in 1981, my nephew had been at Princeton working in the library as a curator of paper."

"That's called archivist not curator. Curators work in museums not libraries."

"Watsa library? A museum for paper. I stick with curator. Go back to school Little Boy."

"Don't pick on the boy. Finish your thought."

"Where was I?"

"Your nephew at Princeton curating away."

"He ran into a situation. Some eggheads from the Institute were getting curious about Einstein's papers. He passed that onto me."

"Einstein? What does he have to do with our business?"

"You aren't in the loop. Maybe I'll tell you if you keep quiet and let me finish." The old man stared his younger brother into silence. "We are

getting close to the end of our control over vices on the east coast and that includes all of our turf. The Asians are moving in and they do not take prisoners.”

“Worse case?”

“They kill us all and take what we have: everything will be lost.”

“Hide the money.”

“Smart. Who’d a thought you had it in you? So bright guy where are we going to hide several billion in cash and gold that cannot be found by these assholes? Where?”

“We’ll bury it.”

“No.”

“Put it in a truck and keep moving it.”

“No.”

“What then?”

“When you hide something when do you get it back?”

“Later.”

“Nice. And what is later called if it is in the form of an investment.”

“A future.”

“Nice again. Repeat the key word.”

“Future.”

“That’s where we hide it. In the future.”

“Is that a place?”

“Read Einstein’s papers.”

NJ warehouse

New Jersey has a lot of waterfront accessible to the Atlantic Ocean. Shipping is a major commercial activity in the area. There are many warehouses along the river and Jersey City's waterfront had many of them.

Two blocks from the vacant lot Rudy and Alicia used to test the concept of shooting a Nothing into the future to destroy a football or anything else was a walled compound that safeguarded a network of three warehouses.

No one was watching the goings on at these warehouses. If there were observers, they would have been bored.

There was nothing unusual about the activity around the warehouses. There has always been a steady stream of trucks starting early in the morning into the late afternoon.

It had been a few months since a sign had appeared on a post just inside the compound gate. "X Machina" it read, and it directed its readers to the largest of the warehouses.

The sign appeared about mid-Spring and disappeared a month later as easily as it appeared.

Other than that nothing happened.

The owners of the these buildings and the contents thereof was the American MOB bosses of which there were many, but only one controlled what went on inside the compound.

Three MOBsters

Sal was as old as he looked. His wit never left him. His friends were all like him ready to argue about anything with anybody except with Sal. Only one person was allowed that privilege and that was Sal's younger brother who had many names. Some were as simple as Little Boy or as complex as Leonardo DaVinci. His real name was Israel. He was shorter than Sal. He liked to talk but he rarely knew what to say so he sounded younger than his years. He had an actual skill which left him in charge of sign painting.

Sal had studied for the priesthood, so his education level was higher than most of his friends. He left the priesthood path when he complained about the Headmaster messing with Little Boy.

The small circle was completed by Stevie. Stevie had almost no skills that were not crime related. His best use was as a convincer. He would visit a malefactor and use his white hat voice to explain that he had two personalities and white hat was hoping that the malefactor would be able to keep all his blood in his body. He showed pictures of his bad half's work that were in the form of partially colorized black and whites of other malefactors. He pointed out all the blood which was unnecessary given the obvious red splotches on the clothing and pools on the floor. Stevie said the presentation was very effective.

"Little Boy I have a new sign for you." Sal said one morning.

"What you got?"

"A black on white with an arrow pointing to the right."

"That's it?"

"Nah that would be stupid. It says in the big letters 'Ex Machina.' Got it?"

“What the hell kinda word is that?”

“Two words. One is ex and the other machina.”

“Little Boy does no painting. Leonardo paints. Now I am confused.”

“True but if you are going to pull that shit, I will sic Stevie Black Hat on you.”

“Fuck you.”

“Have it by noon.”

“Fuck you.”

“Don’t disappoint me.”

Two scientists

Sal paraded through the warehouse. He had fallen a few years back, broken his ankle, so his parading style was more a hobble. He didn't use a cane. It was a slow parade with Little Boy and Stevie arguing about this and that.

"Where is it?" Little Boy yelled into the void of the near empty warehouse. In the distance two white coated males could be seen.

"Where is X Machina?"

"Israel, you might be quiet and professional. Those guys up ahead know their shit. They are on it."

"Like flies?" The three laughed. The two scientists grew nervous as the small MOB approached. They leaned over a table with its blue line drawings that they made from the drawings they had brought with them.

The MOB arrived. Sal asked the only question anyone cared about.

"When is it ready? I am getting nervous. Help me out."

One scientist looked at the other. No one said a thing.

Stevie looked at the scene with his expertise. "Sal can I help?"

"Not today. Men," He said in his calmest voice. "Time is not on our side. You promised today and look at you. Whose turn is it to talk?"

One was young, maybe 30; the other was late middle aged.

"OK." Said the older one. "It is not good, but it could be worse."

"What?" Little Boy blurted out.

"Power. We need more power. You happen to own anything big like a nuke power site? If you do, we could use your help."

A machine

“Where is it? X Machina?” Little Boy had seen too many movies and was ready to start beating heads to get an answer. Sal could see his brother losing his composure.

“Stevie take Leonardo here for an ice cream.”

Sal was an OG. It was family to him. But deals were deals and the machine as described by the older scientist was the deal. The eggheads had the money he promised them while they built it. So...

“Where’s the fucking machine. Its almost noon and you have five hours until Stevie bloodies you assholes. Has he shown you the pictures?”

The usual debate between the scientists ended with the younger speaking.

“Sir, the machine is behind us. The box we have made is sitting on the table in the middle of the room. You can see it through the viewing window.” The speaker pointed.

Sal charged slowly over to the window and took a glancing look around. He saw empty space. He saw a table just under the window. He saw a box about the size of his microwave at his office on the table. He saw a circle about the size of the room outlined in red tape.

The scientists studied his face for clues as to how long they may have to live. They saw his face once red with anger calm down until he looked somewhat pleased.

“That’s it!” He yelled to fill the warehouse with his power. “What the fuck; where is the machine?”

The young scientist responded.

“Yes, Sir. I will walk you through it. The box on the table is the device that will generate the energy field and the red line is the area where whatever is going to the future will be placed.”

“Show me.”

“Ah.”

“Send something into the future.”

The older scientist spoke despite his fear.

“Sir, the problem we are having is that we need more power. We need a second’s worth of power but in a very large amount. Only one source is capable of producing that peak power and that is the Salem Nuclear Power Plant.

The Boss

Salvatore Giuffrida and his brother Israel-Little Boy- Leonardo DaVinci commanded the financial side of the vices their family were engaged in. They made few deals alone, but they handled all the assets.

When Little Boy heard Sal say they handled all the assets, he would giggle and say something about handling all the asses. Little Boy never got over life at the Priori where ... well maybe it's best left unsaid. Everyone knew; no one said it in front of Little Boy because Israel was one deranged character at times. Everyone knew why.

Sal was a boss among bosses but not the boss who controlled the power plant unions. He would beg for power from that guy. As he plotted his play to gain the power the scientists needed, he became agitated again.

"You people need to get the size of the problem you have."

"I prefer to think of it as a problem you have." The young scientist sounded sad, but it was true that the deal they made included a clause that the Boss would supply the power. At the time Sal agreed, he did not understand the dimensions of the needed power.

"Nice. I have bunches of people with machines under their coats. On occasion they are asked to destroy someone who doesn't get it. It's a business expense to us. I am trying to make it plain: The problem is your problem."

"Well, the deal's a deal." The older scientist responded. "The problem is stated in the deal agreement. When you and I made the deal, we knew there would be a big problem if you did not work to solve the power problem. But look. What if we don't fight about it. You are in a hurry,

but I am guessing if you tell the man we failed you will not get the power and then I am dead. No one wins.”

“What’s your name?” Sal pointed to the older man as if he had never heard it.

“Byron.”

“I like your idea.” Sal hobbled over to a stool nearby the window. He sat and contemplated his options. “We both have problems. Mine is to save my families wealth from the so-called marketplace of ideas. Yours is to make the machine work. If we work together, we win if not we waste all that we have done.”

“Yes, Sir.” Byron wanted to hug him but quickly decided against it. He was well over his head in negotiations with ‘made men.’ “Life is too short as it is.”

The goods

The next morning the activity at the warehouse became abnormal. No trucks arrived in the daylight. When the night was fully dark, trucks began to arrive. No one cared.

The trucks arrived two every hour. The trucks parked in a fenced yard next to the four gigantic sliding doors that lead directly to X Machina's room and the red circle.

As the trucks arrived at the gate the drivers were given cab fare to get home. Cabs appeared for them. The trucks then were driven by Sal's people, the ones with their own machines as Sal put it, to the fenced yard. In the yard there were large caliber military style weapons. 30 cal, mortars, mounted machine guns of all types. These machines were mounted on pickup trucks that lined the yard and much of the compound. All the armed trucks had a crew of three.

A crew of Sal's drivers drove a total of four trucks to the four doors, where an army of forklifts swirled around the trucks until empty. The trucks were switched out and the swirl of machines moved the goods into the red circle.

Sal, Little Boy and Stevie White Hat watched and counted and counted. The night went on and on until the Sun rose to reveal all the trucks were empty. All the stuff was in the red circle.

The plan

The Plan was not as much a plan as it was a prayer. The scientists knew that without experimentation no one knew what was going to happen. They had made their calculations.

Little Boy was overwhelmed by the sight of the EFE. One such equation was written on the ever-present white board.

$$G_{\mu\nu} + g_{\mu\nu}\Lambda = \frac{8\pi G}{c^4}T_{\mu\nu}$$

He pointed at it. Scoffed at it. Made an obscene hand gesture at it.

“We are set to throw all this ... what ... shit no one wants to quote ‘lose’ unquote into the whatsit sphere for ... is it ten years or ten thousand years ... I hope no one notices if I change my name and profession to disappear.”

Stevie didn’t get it, but he was unquestioning. “Shut up Little Boy. Life is beyond control.”

In the main office for the compound Sal and the two scientists were in deep conference.

“Stuff’s here. Power is almost there. A call will be made, and we are go.”

“It’s a button. Push the button when the call comes, and it’s gone to a place no one can find.”

“Have we talked about what happens in ten years.”

“All the goods come back to the red circle. It will be an empty space and then it will be as you see it now. If someone is standing there they will be squashed to grease.”

“Greece? Why Greece? I like Athens.”

“G-r-e-a-s-e. Grease.”

Detected

In a warehouse, one of those on a waterfront dock on the Passaic River, where the lights are dim at night and the scurrying sounds of rats interrupted the slap of the harbor's small waves against the pilings below, was a very special room within which was stored another smaller, working model of Gödel's Zeitmaschine.

In a nearby cubical was another smaller device that the makers of which promised would detect anyone else on the planet using a similar device to the Zeitmaschine.

The E-Group as they called themselves were loaded for bear as they put it. These were the men who had used human time travel and were soon to learn the MOB had blasted a huge weight ten years ahead.

The machine they called the detector. It had done the same nothing for all its 22 years. Then a large wrinkle was added. Then nothing.

Until it woke up in the middle of the night. And a new yet much smaller wrinkle had been added to reality.

Panic set in. Days would pass before a solution to their dilemma would appear. Their world had fallen apart. They had opened pandoras box thanks to Byron's treachery. This is what they feared most. One of the E-Group, all scientists, literally lost his cookies when at his snack break, he was told about the latest events.

In the MOB's warehouse Sal had been amazed by the results. He figured he had safeguarded over two Billion in cash and metals. In a fit of optimism and fear he commissioned another machine. A detector that could tell if anyone was onto their plan.

One month later, they detected a second small wrinkle in the constant background. They were watching the Super Bowl in their 'club house,' a bar with food and masseuses, built into the east end of the large warehouse. Byron was surprised when he checked the graphs and charts. He re-checked his thinking since it had been a three-drink half.

He had left the bar to check the data when Miami had a 7-point lead. He hated Miami. He had bet big on Washington. Sal had been laughing at him for nearly an hour.

As Byron returned, he knew he would need to tell Sal a detection had been made. It came from Pasadena. It came at the time the game was about to start.

He had no theory about who or why. He thought that if he could show they interfered in the game, he might get out of his bet. As he walked into the bar Sal was all over him.

"Hey dipshit. Wise up. Washington DC is a land of losers. Miami will beat them up in the second half. Ha. Ha."

"Boss, thanks for the observation. I have some news. There has been a detection." He described the location and time along with his fear and a challenge to save his wager.

"Nah. That can't be. We would have noticed," was Sal's response.

Meanwhile the E-Group members are meeting at their warehouse, wondering what to do about the owners of a nearby warehouse that looked like a military base with towers and concertina wire running around the top of the compound walls.

"It is all in the math." One said. "It takes time to calculate, but we know who is detecting. We saw the event before they did. Their observation

changed the wrinkle. When we went back to study it further, we could see it. Which means ...”

“They know we are onto them because our observation changed the wrinkle, too.”

“Byron would have the same ideas we have. We see them. They see us.”

“Now what?”

E meets G

It became plain to both groups that everyone involved in defeating the new time weapons would have to meet.

Princeton and Chicago both used conference calls and so a place to meet in each city was easy to find. Rudy and Alicia were in the same room as Nelson while Marva called in from Pasadena to join the group at Chicago.

The discussion was about where to physically meet. G-group based in Princeton had a member in Pasadena. The E-group was based in Chicago with a member in Princeton.

The MOB was based in Jersey City. No one imagined inviting them.

Rudy and Alicia prevailed because Marva was more valuable and travel time would reduce her ability to participate. Nelson liked California and was excited to see the Jet Propulsion Laboratory.

The original G group had four members but with Sebastian's loss to the MOB's brain trust there were now three. The E group was five and now four with the loss of Byron.

The seven met soon after the easterners landed at LA International.

They stayed at the Langham Huntington, an upscale hotel in Old Pasadena dating from the height of the Hollywood era. Alicia and Marva chose the location before the general invitation was sent to the E and G groups. It had many private meeting rooms on a twenty-three acres of rolling hills and woods. The serenity and the elite atmosphere matched the entitlement the older Chicago professors found was needed to make them feel at home. The hotel was the great draw Alicia

had hoped would help to overcome the fear some felt regarding the aims of their project.

In the first meeting, Nelson chaired. He opened with a short history of the two groups. After the introduction the open conversation followed the usual academic meeting process: Agenda, Discussion, Decision-making.

The agenda was the most difficult step. After an hour of aimlessness, or so it seemed, the arguments became simplified. The first was to understand that they had 'all fucked up' as Rudy put it. "We wrinkled time before we knew what we were doing. We built a machine. The same machine fell into the hands of those whose motives are criminal."

"Now what?" Alicia said.

"The only item that matters." Said Marva.

The others hemmed and hawed. Rudy agreed but wondered if he had enough information about the options.

"What are they?" Demanded Nelson of his group mates.

Arieh, an Astrophysicist, offered that there was nothing useful to do short of destroying every machine that existed.

Henrik assented.

James. A bit older and experienced in the politics of physics, added, "In secret."

Arieh asked, "How?"

Marva said in a low voice speaking, "Violently, destroying the entire facility and as many of the MOB and its helpers as possible."

The shock of the declaration, spoken by a woman, was not lost on the men who sat at the table with her.

Alicia for one was shocked that such a statement would come from Marva. "What about Sebass?"

"What about Byron?" Came from Nelson.

Then there was a silence that no one felt comfortable breaking. Nelson left the room. Alicia checked her watch. Rudy stood and wandered around the room as did two E-group members. A waiter entered the room asking about needs. No one spoke. He left.

Some went to the bathroom. Others sat down at the table. Nelson went to the whiteboard provided and wrote

Assets:

Photon gun

Nothing

Detector

Targets:

MOB machine

Means to build again including facilities

MOB money

Personnel who would take offense at the loss of the money

Our own machines

And then sat down.

James knew something about military strategy having served in the so-called first strategic strike force. "We must consider the order of our moves. What if we attack the money alone? What happens next?"

“Their detection capability would find us, and they would destroy us in revenge.” Arieh knew of what he spoke having assisted in the creation of a stellar guidance system now in satellites that could find and follow anything moving on the planet.

“Why not eliminate their ability to defend themselves first then the money?”

This became the first question on a list of unanswered questions.

The next was “Why don’t we just kill them and steal the money?” which became the test of one’s motive in life.

The last was about warning people to stay away. “Do we have to kill?”

Hours more were spent in sometimes chaotic verbalizations that no one could find a way around. The ultimate was that they did not want to kill. They would chance the detection being misled by a miracle and they could tell if they were detected. Kill the money and issue a warning as the time for the meeting of money and Nothing approached. There was nothing anyone could do once there was a launch.

In the morning there was a general weeping and gnashing of teeth. More time was spent reviewing their thinking. Some had consulted friends about intergovernmental standards for mass murder or causing harm in one’s self defense. None of their consultations and remonstrations changed the plan.

The money hunt

Marva stood at the head of the table around which they had planned their assault on the MOB to stop the wrinkling of time. The E-group was first to wrinkle time in a big way. Then the MOB. Then Rudy and Alicia for one and Marva, Rudy and Alicia for another.

“Rudy has crunched the numbers provided by the E-group and has calculated the trajectory and an ETA. It will arrive on the spot the MOB money was launched from. Its travel time will be within seconds of ten years from launch. This was not easy math.

“The information we received from the detection of the MOB’s shot might be wrong. It will almost be a decade before we will know.” She waited for the voices of her six colleagues to quiet.

“Given that we also used data from the G-group shot and the E-group’s shot that brought Nelson forward 15 years. These data provided a means to assign error to our calculations. Rudy suggested that we pick the upper end making the packet arrive later more probable rather than earlier.”

More mumbling quieted her for a few moments.

“Last item is the calculation of the damage we will cause with either of our planned shots. When we go for their machines it will be a large disruption of the atmosphere. But the money shots, ours and the MOBS, will arrive near the same time. It is possible the timing will be identical.

“If both packages arrive near simultaneously a very large explosion may occur. Rudy and Alicia’s experience with their test shot in New Jersey

was loud even deafening. This was a small Nothing hitting a bag of stones.

“The money and the money shot are much larger maybe hundreds of times larger in both mass and volume. They will be traveling at the speed of light. The damage could be great. And maybe for miles around.”

Murmuring stopped her again.

A hand went up. It was Nelson.

“We need to rethink. We need more science on the effect of sending a vacuum to eat something. More tests.”

“Produces more wrinkles. Let’s go through this piece by piece and decide what matters to us and what doesn’t.”

One by one all the positions were revealed.

“I don’t care about the MOB’s money as much as I care that we destroy their capability which necessitates the taking of life. I know we’ve been through this, but the equipment matters more as does destroying the future capability.”

“Brings up the notion of killing them and taking their money.”

“My concern is that the money will never return, and we might destroy something for no reason.”

“Maybe we could just hit their machines. If we take out their staff, they are not dangerous to us. They cannot detect us nor identify us. If we let them have the money, we will stop the wrinkling and be free of the entire problem.”

“Without more experience we cannot tell what will become of the money.”

The discussion circled the table many times. The dynamics revealed that the individuals were at a loss. Marva took over.

“Pardon me, please. That probably means that I might take a shot at your emotions. It might hurt. Here we are trying to come to an agreement about committing a capital crime. The more we talk the more likely someone unfriendly to us will hear.

“My work will be the preparation of the photon guns we will use and the Nothing we will fire into the future. We know from our own experience that this model will work. I can be ready in four days with both guns and both payloads.

“I am going to prepare the money shot first and if the navigation calculations are correct, we can fire in as soon as three days. The final shot to destroy the machinery will be ready asap. Two more days and it will be ready. This means we will have visible results in five days.”

The other six members at the meeting sat quietly as she talked.

“One more thing, it is imperative that we make the second shot. Once we know the MOB is after us, we can have more motive for the second one. I suggest that we plan to make both shots and then monitor their ability to react to us. If we must defend ourselves, we can take other steps. We can move our homes. We can move out of the warehouse with our machines.

“In time we will destroy all our machines and all the descriptions of the machine. Someone needs to get into the E and G archives to find and destroy references to the G drawings before anyone else finds them.”

“You are talking about destroying history to protect creation.” One of the E Group said.

“What else? Walk away and hope? Not me. Science is uncaring about what will happen it only cares about the past. The exception is a life critical problem like over population or climate change.”

Rudy added, “Or the destruction of our democracy because mobsters have control over a technology that should not exist.”

There was an intake of breath as everyone realized that the stake were high.

Nancy Drew

Alicia went for walks. On a sunny day, she took Grace for a walk around the warehouse district the MOB used. Using the GPS and the rangefinder she made a map of the warehouse compound. Marva had asked her for this info. Grace thought it was boring and she kept tossing her toys out of the buggy her mother was pushing her around in. That was annoying. Her mother was busy with her Nancy Drew thing and missed a few of her child's favorite toys. After much crying Alicia figured out that the kid was upset at her for being inattentive to her toy crisis. It would be a few more weeks before Grace discovered how to open the belts that kept her in. Grace had a plan if the walks became that boring again. She waited patiently, but they never returned to that district.

Alicia had a philosophical view of cartography. She had studied art because to her process mattered and art required process. She considered this knowledge as essential to understanding the philosophy of scientists, process oriented to a fault. She kept records of every consideration as to location and orientation. She reviewed her charts which she carefully crafted by hand. Her experience at this effort with her child curled in her lap or running around the kitchen chasing her imaginary friends, helped her find her real calling when she illustrated a friend's children's book about the solar system.

The mapping of the exterior of the warehouses in the compound with other exterior features led to an estimate of the location of the future LZ for the MOB's loot. The three bay doors into the largest warehouse opened into the building from a high chain link fence topped with razor wire looked suspiciously like a staging area for a billion-dollar payload.

Some of the others would merge her maps with other data such as the location of the origin of the large wrinkle.

One night as she was finishing the mapping, she took Grace for a car ride. It took twenty minutes to reach the warehouse compound. She parked in the dark with a view of the guard shack hoping for some inspiration.

As she sat waiting Grace stirred. "Mommy, I need to pee."

"Can you wait?"

"No."

"Hmm. I have an idea." She kicked the car into action and in seconds she was facing the guard.

"My kid needs a toilet. Can you?"

"OK lady. Turn right two doors down."

"Thanks."

She drove past the second door to the second building. Parked as if she knew what she was doing, grabbed the kid and went through the door into the bay near the doors. She marched through the building until she saw a red ring and in the distance someone that looked like Sebastian. On seeing him she turned and left in the same march as if she knew what she was doing. As she approached the main door a guard came down a hallway.

She saw him and said, "Bathroom."

Grace said, "Hurry."

The guard pointed to the women's room and she was gone. Five minutes she was out, in the car and waving at the guard.

“Good job hunny bun.” She checked to see if the GPS device recorded their steps. “We got it 5 by 5.”

Marva builds a bigger gun for the money shot

All six of the scientists and mathematicians worked together to do the math and to determine the size of the payload for the money shot to destroy the MOB money.

Marva's new weapon was somewhat larger than the photon gun because the larger Nothing needed more photon power. Her first gun worked with the power of a small battery JPL had invented for missile guidance systems. The new one required ten such batteries.

The new gun was finished. They met again on a conference call. Nelson agreed to fly east to transport the gun to the launch site in Patterson, a site that was as yet undetermined. Rudy had chosen Patterson after a comedy routine replayed on his boyhood tv: The one where Abbott and Costello are in jail for dashing on a restaurant tab. He told her the whole story twice while periodically paralyzed with laughter at his memory of the scenes. He quoted them poorly, but she enjoyed watching him convulse in hysterical joyousness.

The discussion of place was immersed in the desire to avoid the mistake of unintentionally making some innocents a target while the eggheads were ten states away safely sipping Champagne. Patterson was abandoned.

The launch was changed to a desert site north of Pasadena where the nearest town had only two old-timers and their four mangy dogs.

The calculations were then finished. Marva drove the gear north on her day off. Rudy met her at the site having flown to Palm Springs from the East. They set up the gear beyond the sight of any living being.

“Checklist.”

“Stable and oriented.”

“Power sources active.”

“Navigation settings.”

“Check.”

“Hold hands and hope.”

“What about the button.”

“That’s next.”

“Who?”

“Both of us. I’ve been thinking about this.”

“Shocking.”

“Stop. We’ll tape out thumbs together. Here’s tape. Then we will poise ourselves over the button. We will count down together from ten. If one resists it won’t happen.”

“Ready?”

“How about counting from three. I hate tape.”

“OK. Three.”

“Two.”

“One.”

“Zero.”

The money shot

Byron and Sebastian saw the detector had registered another wrinkle.

“Shit.”

“I’ll say. What are our erstwhile friends up to now?”

“I’ll do the time dilation calcs first.”

“What do I do?”

“Hope I have time to finish them before we are greased.”

Sebastian paced and then went back to the machine to examine the wrinkle again to see how many visitors the data had. He had expected one. His own. There were two.

“Oh, Fu...” He paced back to Byron’s office.

“News?”

“Yes, they are looking at us. They visited the wrinkle and saw we had detected.”

“Almost done with the crunch. Here it comes. Wow.”

“What?”

“We are dead.”

“When?”

“They shot at the money. Something or someone will be there when the money arrives.”

“Not now?”

“Just short of ten years. Weird. Why did they do that?”

“Who? The eggheads. They are dead as soon as I find them.” Byron and Sebastian were shocked to hear a third voice. It was Little Boy. “Boss sent me to check on you. He had a feeling. What should I tell him?”

The professors looked at each other and neither indicated they had an answer.

After a count of ten Little Boy yelled.

“Stevie. Need you.”

The person the professors had learned to fear stood before them.

“Which one first?”

“Wait. Wait. Let’s talk.” Sebastian said.

Stevie had a folder with his photos in his hand. Little Boy had a swagger.

Israel looked into Byron’s eyes. “Who’s first to do the talking?” No one spoke. “Stevie show them the artwork.”

“No. No. We are ready to tell you what is knowable.” Sebastian said.

“Damn.” Said Stevie.

“Why didn’t you come to me before?” Little Boy had listened to his brother. He knew the good lines. They had watched the gangster and Godfather movies together laughing their asses off and practicing the best lines.

Sebastian saw he needed to act to save himself. “We know someone sent a load aimed at the red circle to arrive in ten years or less. We think it is aimed at the money.”

“Retaliate.”

“It’s in the middle of the fucking Mohave Desert.”

“Who cares?”

In a little town called Nowhere, two old timers were sitting sipping their cactus berry wine, watching the sunset. The dogs were inside, staying out of the heat, relaxing on the old timers’ bed.

Nowhere was not a place except in the mind of the old timers.

Nothing was happening that they had not seen hundreds of times since they moved out of LA to get away from all the others. They moved during the great sale of desert lots in the 1950’s.

Three thousand miles away or so, the MOB was working to deliver a knockout punch to, as Little Boy described his foes, the assholes who would destroy his future.

There had been a discussion amongst the scientists and Stevie about how to respond.

“Our problem is power. Based on what we have we could send a small foreign car not anything larger.”

“Do it. Now.”

“Gotcha.”

The old timers had watched the sunset behind the dune ridge almost west of them for all their years of sitting on their porch. They gaged the season by how far north or south of the tallest Yucca tree on that ridge the sun set. It was perfectly situated. Like Stonehenge.

They would never know or understand what happened. They were talking about how many cars they could hear travelling by their house. They couldn’t see the cars but on windless evenings like this one the

sounds were clear, and they would guess the make and model of the cars and trucks as a game of imagination. They smoked weed, took acid, drank their asses off every night so they would guess wildly and laugh.

They watched the sun go down behind the ridge profiling the yucca. A sports car drove by on the highway.

“A porche 911.” She said.

The tree disappeared.

Neither said anything.

“Let’s kick the dogs off the bed and I’ll touch you.”

“OK.”

In New Jersey, Little Boy had seconds ago seen his brother’s prize car disappear from the red circle.

“That fucking thing better do some damage or Sal will kick my ass.”

Byron had no idea what to say. Sebastian wished he had studied art.

E and G groups meet

It is a long way from the east coast or the middle coast to the west coast. They flew anyway to confer with Marva at what might be their last meeting.

Alicia, Rudy and Nelson flew together. There was some quiet talk about the resurfacing of Sebastian and Byron.

Nelson was the most sanguine.

“At the risk of seeming cruel, their memories need to be put to rest.”

There was no hurry to talk. They all agreed without speaking.

“But what about me and you? How do we forget?” Rudy asked.

Alicia was reading the airline magazine. She looked up.

“I have located both Byron and Sebastian’s living quarters. Sebastian’s office is known to me. Marva has produced a look alike but fatally flawed spoof of the main documents in the E and G collection. Marva assures me that taken together they are nonsense and easily overlooked by future investigators. My intention is to exchange the fake into all the files I know about.

“I am going to ask each of us to turn into me the copies they control. Maybe we will have a ceremony. Burn them. Hope no one’s cheating.

“All of the machines must be destroyed, maybe not by a wrinkle in time but a good recycling project. That’s getting popular.”

Nelson looked at her.

“I should have studied philosophy.”

“You still wouldn’t be able to keep up with her.” Rudy was grinning ear to ear.

“That hurts. I have nothing but respect ...”

Alicia interrupted him. “Chalk It up to the battle of the sexes.”

“Serious question though.” Rudy had been holding her hand the entire flight. He was suddenly squeezing it harder than usual.

“Are you intent on squashing that hand? I need it.”

“Sorry. Ah, My question is how do we lure everyone into range with the machines?”

“Yeah, Ms. Smarty Pants, how?” Nelson was laughing but he was gaining time trying not to visualize her ideas in action.

“Like I said.” Alicia was enjoying the pause in seriousness. “Question is what will draw them together? I figure they would all be there if the was a new wrinkle headed to them. We fire something humorous at them. Maybe their wrecked car. It will be easy to send it back to them with an I’m sorry note.”

Everyone laughed. Both men said good idea.

“Then what?”

“Nelson, we send them a new package just before their demise. It eats them and the machines. I have all coordinates and dimensions. Me and Grace been busy. The first one allows them time to calculate and the second does not.”

No one talked again until the meeting when all the talk, all the emotions came out again. Then there was agreement.

The decision to kill

Rudy and Marva were on watch. He was at the E-Group warehouse and she was at JPL. She had copied the E-Group's detector design.

Rudy picked up the phone and called into JPL to compare notes about the wrinkle and to calculate its object and time in flight.

"There has been another wrinkle detected which was in response to the Money Shot. We can see they detected our shot and figured it was aimed at the destroying their wealth. Their shot was aimed at the middle of a desert which was our launch location." Rudy and Marva spread the word to the E-Group.

Before long they were all on a conference call. Marva stated the proposition that the conditions they had set for the Kill shot had been met. She reviewed them quickly and waited for disagreement.

"Hearing no objections ..." She was saying until she was interrupted. Alicia and one of the E-group exchanged their thoughts.

"Wait. We need to find out more about how they made their decisions." He said.

"We aren't responsible for their choices." Alicia was patient but her patience was thin and her voice was snappy, sharp and a little cruel. "We are responsible for our own."

The others were quick to respond.

"We are not responsible for G and E's conversations and conclusions."

"We are responsible for our own experiments. We are no different. Byron and Sebastian are from us. Sebastian made a bad choice but not entirely his fault. Context and circumstances."

“No two the same.” He said.

“I think Kurt would agree.” After a pause. Marva repeated herself.

“Hearing no objections... we launch. I have the switch in my hand. It is gone.”

The Kill shot

“Boss, The eggheads have a detection.”

“Coming.”

The walk across the warehouse.

“What’s happening?”

“Seems the Mojave Desert is back. A wrinkle. We are figuring it out. Arrival time first, exact LZ next.”

“Who is out there?”

“Boss. Remember when they took a shot at the goods? We retaliated. We threw a big object at them.”

“What?”

“Your fucking car... the whatever it was. Where the fuck is Little Boy?”

Byron lifted his head from the computer screen.

“We have info. It will arrive in the red circle tomorrow at 9AM.” When Byron said that he knew he did not want to be anywhere near here tomorrow.

The Boss pointed to Stevie.

“Make sure these two go nowhere tonight. Gather everyone who knows about this shit and get them here to see an old, probably fucked up car, returning from the future.”

Little Boy walked through the door, heard what his older brother had to say and pee-ed in his pants. The fact that Sal was wrong about the returning part would likely not have had an effect on Little Boy’s body

functions. Byron and Sebastian kept quiet. No one corrected the back from the future comment.

When the Porche arrived, everyone rushed into the room. Ten seconds later the Nothing arrived. The building and the buildings around the X Machina building were swept at least 100 yards from the now nonexistent red circle.

Marva and Nelson had been watching their detectors for another MOB shot but saw none in the following their attack. It was over.

“What happens next? Run and hide?” One of the E-group said.

Nelson had the answer. “They are destroyed. We will survive.”

“Maybe they will come after us for revenge?”

“No. That is not a human reaction. They are over. No leaders, no money. They will run and hide.”

“I can sleep at night?”

“We just killed 20 people so there is that to deal with.”

Marva looked from eye to eye trying to understand what was going to happen next. Her take was it was in fact all over except to destroy their own equipment. She made a note to take out the secret parts that could not be reconstructed. These she would turn into dust in the morning.

Anyone in their right mind would want you

“Poor them” She said as she responded to his idea that there were lots of people who could be attracted to her. Beauty is amazing that way was his argument. She saw it as a fool’s gold. He saw it as her major asset. When she responded as she did, he saw he had been ... ‘stupid’ might work ... but he felt quick-witted.

He had long ago figured out that the important question was Why do we fall in love? Each being has a different perspective. Each being is a different dream of god or a different part of the complex consciousness. No matter, we seek each other out to find that difference entertaining. Love is essential self-regard, the recognition of our role as dreams and dreamer.

She interrupted his mental machinations by starting to talk. He left his confusion in favor of attempting to listen to her as she started speaking again.

“Honey, we’re different. I am a beautiful woman to you and that is because you love me. Anyone else would have to love me first before they saw me as beautiful. You are attracted to me. Most of it is intellectual, some is physical pleasure but conjecturing that everyone sees the beauty you see is generous to a fault.”

“You mean I am wrong.?”

“Yup. Any questions?”

“Nope. As long as I live you will be the most beautiful woman in the world.”

“What about Grace?”

“I love Grace but you ...”

“I am special because we can talk to one another about what we care about. Without that what would there be to love.”

“Got it. The idea that there are others who could love you as I do dies when one realizes that only a handful of people have ever understood what you are talking about on any given day and some if not all are dead or old and dying. You say only I can care about you in a way that describes love to you.”

“Yes.”

“Good. Even though I was wrong it was a wrong in your favor.”

“No.”

“Why?”

“Because your error is a leap into unreality. And that is an error. Always.”

“Can we go lie down, now?”

“Oh, my. Case in point. Without a woman’s view men would die of hunger and disease.”

“Ah?”

“First, put away the leftovers. Then wash the dishes. If you are still awake poop, take a bath, and brush your teeth. Put your dirties in the laundry, get dressed for bed. Kiss your wife and pray to the complex consciousness that the wrinkles are gone.”